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Will van Overbeek photographed this Arkansas welding class (see page 56).

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"It is very important that we have a long-range vision of where this country needs to be."

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"Don't run out of cash, and don't ever turn down an order."

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"Applying for the Baldrige and getting the feedback they give you is of incredible value to a company."

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"We could educate ourselves and do research until we are blue in the face, and we still would not be competitive."

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"In the past the attention was on minorities as a *problem*, on women as a *problem*."

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"Children are a great investment. They beat the hell out of stocks."

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COVER: This lucite 500 was constructed by Nicholas Fasciano and photographed by Roberto Brosan.

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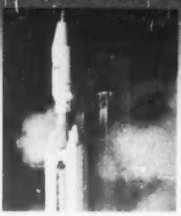

"Every time we sell one Titan launch overseas, it offsets the import of 10,000 Toyotas."

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"I was propositioned as a CEO, and I still am."

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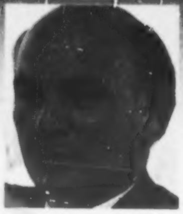

"I've learned how important a reputation is. If we had faced this problem with a bad reputation, we'd be dead."

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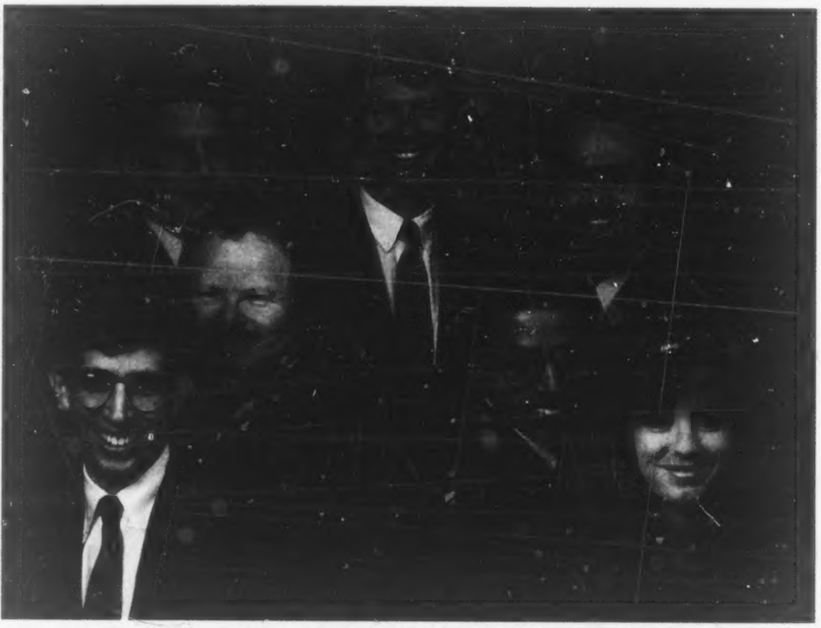
SHONNA VALESKA

Members of the 500 team: Editor Richard Kirkland (center) flanked by writers Peter Petre and Andrew Kupfer and (front) reporters Mark Colodny, Wilton Woods, Rahul Jacob, and Ret Autry

IF YOU CAN CALL the 396-page text you hold in your hand a book, it is surely the most popular business book of the year—any year. The FORTUNE 500 is not only part of the language (it's listed in the *Oxford English Dictionary*) but also a source for government statistics (figures from the 500 are included in the *Statistical Abstract of the United States*). Chief executives and other managers use our annual directory of the 500 largest U.S. industrials to compare how their companies are doing against others, to help set compensation plans, and as a handy year-round reference tool.

To lead off this year's 500 issue, we have eight forward-looking articles addressing an urgent theme: industrial competitiveness and how to improve it. Says senior editor Richard Kirkland, who edited the 500 package: "Competitiveness is not some Zen state that, once achieved, you never lose. You have to keep striving for it. Our package offers valuable advice on what companies and the government should and shouldn't do." Among the policy recommendations: Spend more on roads, bridges, and airports; shift investment out of the arms race into deserving commercial technologies; and set up communications systems to keep small, entrepreneurial manufacturers abreast of the latest technological developments.

The 12-week job of assembling the 500 listings fell to reporters Ret Autry and Mark Colodny, who were supervised by our list expert, chief of reporters Evelyn Benjamin. To meet a March 28 deadline, they worked through back-to-back, 100-hour weeks, compiling and checking questionnaires and logging the data into our computer. "We came to view it as an experiment in sleep deprivation," says Colodny. It also proved to be an excellent crash course in accounting for these two recent liberal arts graduates, whose curricula at the University of North Carolina and Harvard never included scrutinizing annual reports or crunching numbers. To inspect their efforts, which will be followed by our Service 500 in the June 4 issue, see the Industrial 500 directory beginning on page 337.

Marshall Loeb
MANAGING EDITOR

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BY ANDREW EVAN SERWER

HIGH-TECH STOCKS SHOULD BE THE FORTUNE 500's NEXT HIGHFLIERS

■ After chugging along nicely for most of the year, shares of the nation's largest industrial companies were derailed in the winter months by weak earnings and rising interest rates. For the 12 months ended March 16, stocks of the FORTUNE 500 companies rose only 1.3%. A few groups remained full of steam, but several former winners, like tobacco and metals stocks, lost ground. For the year ahead, many Wall Streeters foresee slim profits overall, but they point to a few industries that should buck the trend and produce lavish returns.

According to Lynch Jones & Ryan, whose I/B/E/S service polls thousands of Wall Street analysts for their earnings forecasts, the betting is that FORTUNE 500 companies should manage no better than 6.5% growth in earnings in 1990. Even that modest prediction could be cut back on as the year proceeds. Security analysts typically start the year with optimistic forecasts and then pare them as the months pass.

As in all years, there will be winners and losers. Most analysts say that stocks of computer companies and chipmakers will be the standout performers in the months ahead. "Technology is my favorite group right now," says Byron Wien, Morgan Stanley's U.S. investment strategist. He believes companies will step up purchases of technology to improve productivity, resulting in a prolonged run for high-tech stocks. Says Wien: "Look for stocks selling at roughly the market's P/E, where the company enjoys dominance in a sustainable product and is in the early stage of a product cycle."

Who fits the bill? Wien's favorite is **Intel**, whose 80486 microprocessor is expected to be the engine of a powerful new generation of PCs and workstations. According to the I/B/E/S consensus, analysts expect Intel's earnings to climb 26% in 1990. "Here is one of America's technology leaders with superior earnings growth, selling close to the market's P/E multiple," says Wien.

In the computer sector, analysts are equally excited by **Apple Computer** and **Compaq Computer**. Both are expected to log 20% earnings gains this year, and the stocks sell for only 11 times estimated earnings, well below the market's P/E of 13.6. "We strongly recommend these two stocks right now," says Eugene Glazer, technology analyst at Dean Witter Reynolds.

Charles Clough, chief investment strategist of Merrill Lynch, is similarly bullish on technology, but he is also loading up on some less glamorous stocks. "The U.S. will have to spend more on capital equipment to compete," he says. Two stocks Clough likes are **Deere**, the tractor maker, which sells for just 11 times expected 1990 earnings, and oil services company **Baker Hughes**, where higher oil prices and increased drilling activity are producing a gusher on the bottom line. Analysts foresee

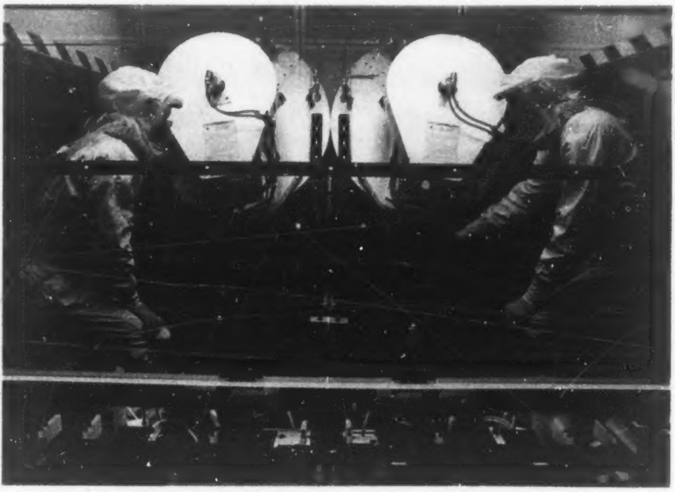
500

INDUSTRY	AVERAGE STOCK PRICE CHANGE 12 MONTHS TO MARCH 16	ESTIMATED EARNINGS GROWTH IN 1990	P/E*
Toys	36.9%	16.6%	10.7
Mining, crude oil production	33.2%	7.9%	24.2
Beverages	15.2%	16.3%	17.4
Apparel	9.1%	17.4%	10.4
Pharmaceuticals	9.0%	15.1%	15.0
Soaps, cosmetics	8.5%	10.1%	14.3
Electronics	8.4%	11.7%	13.9
Computers, office equipment	8.4%	33.0%	13.3
Industrial, farm equipment	6.2%	14.7%	16.1
Building materials	4.8%	2.7%	11.8
Metal products	4.6%	29.4%	13.5
Forest products	4.4%	-12.9%	10.4
Petroleum refining	4.2%	5.6%	13.3
Furniture	3.3%	8.9%	11.4
Food	-1.0%	15.0%	13.8
Metals	-2.0%	-24.8%	9.6
Scientific and photo. equipment	-2.4%	7.4%	12.7
Tobacco	-3.7%	9.4%	11.5
Publishing, printing	-4.1%	-9.9%	15.7
Rubber products	-4.8%	-15.8%	14.9
Chemicals	-9.9%	-3.7%	11.0
Aerospace	-10.2%	44.6%	9.9
Textiles	-11.8%	4.3%	11.0
Motor vehicles, parts	-24.1%	-22.1%	10.6
FORTUNE 500	1.3%	6.5%	13.2

*Based on estimated 1990 earnings.

SOURCE: INSTITUTIONAL BROKERS ESTIMATE SYSTEM

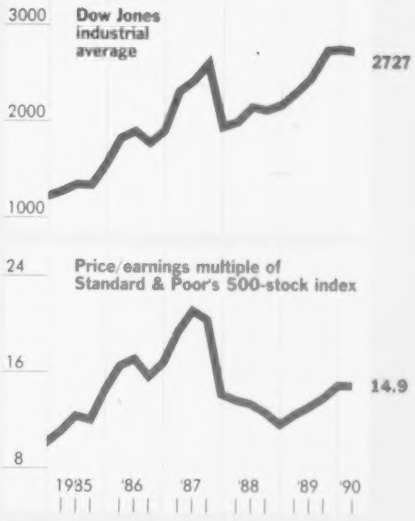
Toy stocks took top honors for the past 12 months, but analysts say the new market leaders will be companies like Intel, where the high-tech machines that make its new 80486 microprocessor will be working 24 hours a day to meet heavy customer demand.



THOMAS BURCHILL—INTEL

STATE OF THE MARKETS

Stocks



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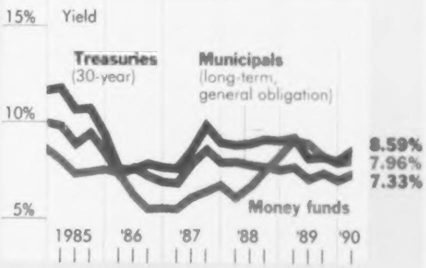
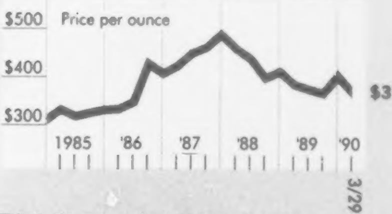


Gold



This is FORTUNE's fortnightly look at the major markets of the past five years

CHARTS SHOW END-OF-QUARTER FIGURES.

BASED ON EARNINGS FOR THE LATEST FOUR QUARTERS.

SOURCES: STANDARD & POOR'S, BOND BUYER, DONOGHUE'S MONEY FUND REPORT, COMMODITY EXCHANGE

a 59% growth in Baker Hughes's earnings this year.

Higher oil prices have also been a boon to the mining and crude oil production group, which chalked up a 33% gain over the past 12 months. Yet despite forecasts for respectable earnings growth again in 1990, analysts are wary of most energy stocks. "This group is a little ahead of itself," says Richard Straley, an analyst with Stephens Inc. in Little Rock, Arkansas. For the long haul Straley recommends drillers with a heavy mix of natural gas business, like **Louisiana Land & Exploration** and **Mitchell Energy**.

While aerospace stocks may look awfully tempting with their projected 1990 earnings growth of 45%, most analysts are warning their clients to steer clear. The industry's heady earnings growth forecast is inflated, they say, because last year's earnings were depressed by big write-offs. Don't be tempted by the stocks' dirt-cheap multiples either. Analysts believe that disarmament and the budget crunch will keep the group grounded for months to come.

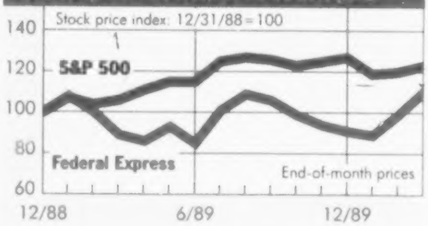
Last year's booby prize goes to motor vehicles and parts. The group's shares fell 24%, dragged down by weak demand for cars and trucks and even weaker pricing. Now that these stocks have been relegated to the junkyard—many have single-digit P/Es—a few analysts have turned bullish. But most are holding back. Continued price cutting and sluggish demand, they contend, will postpone any recovery in share prices.

The metals and metal products groups both fell flat in 1989, but analysts expect their paths to diverge in 1990. Because metals prices have declined, earnings for the metals group, which includes metal producers like **Alcoa**, are expected to plummet 25% in 1990. Meanwhile, earnings in the metal products group—companies that typically use a lot of metal—are expected to strengthen as weak metal prices lower production costs. Companies such as **Ball**, a maker of aluminum cans, stand to be big beneficiaries from the trend. John Tumazos of Donaldson Lufkin & Jenrette sees Ball's operating income climbing from 0.4 cents per can to 0.7 cents this year, yet the canmaker's shares, he points out, sell for slightly less than the market's multiple. Sounds like a can-do kind of stock.

IS FEDERAL EXPRESS STOCK ABOUT TO DELIVER?

■ Talk about a bumpy ride. For the past four years stockholders of Federal Express have been rocked by one jolt after another. In 1986 the company lost more than $300 million on its ill-starred facsimile service named ZapMail. In 1988 earnings growth was diminished by a costly campaign to establish package delivery service abroad, a move that culminated in the 1989 acquisition of heavy freight carrier Tiger International for $880 million. Also in 1989, the earth sneezed and three natural disasters—Hurricane Hugo, the San Francisco earthquake, and a volcanic eruption in Anchorage, Alaska—disrupted delivery and cost the courier millions of dollars. Reflecting those lumps, the stock's recent price of $56 is below what a share sold for in 1985.

A PAYOFF LONG OVERDUE



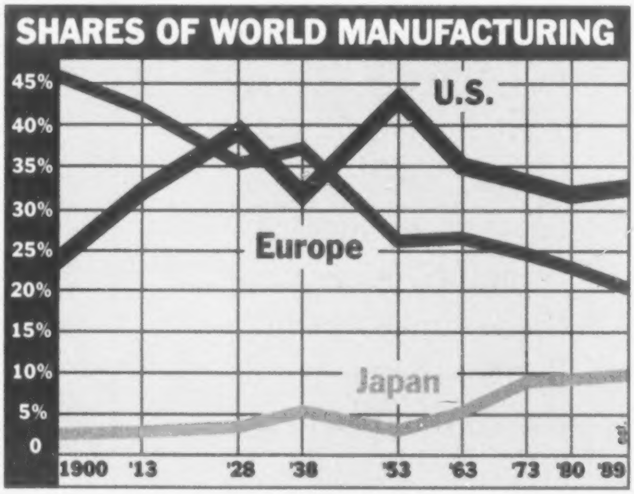
Lately, however, some savvy folks have begun betting that the payoff from Federal Express shares is about to commence. They expect a triple scoop of good fortune for the company in the year ahead: declining costs, rising deliveries, and higher rates for its services. The strong earnings improvement, they contend, could push the stock as high as $100 per share by 1992. Says Tad Trantum, an analyst at J.C. Bradford & Co. in Nashville: "I've been following transportation companies a long time, and I've never seen anything more exciting."

Though the difficulties of integrating Tiger are not over, many of the costs associated with the acquisition are beginning to decline, as are the huge outlays for developing overseas facilities. Meanwhile, volume is rising at a 15% rate for Federal's domestic business and a 35% rate for international. What's more, the company has just put into effect across-the-board price increases. Kevin Murphy

LIFTING AMERICAN

The United States is no slouch now, but it needs to do better. Washington could help by adopting savvy new strategies to invest in excellence. ■ *by Peter Petre*

WITH THE END of the Cold War, America enters an era in which national power is increasingly determined by economic rather than military might. In this new world where industries, not arsenals, matter most, competitiveness—a nation's ability to meet the test of the global market while raising living standards at home—becomes the key index of strength. So how does the U.S. stack up? And what are the essentials needed for success in the future?


SHARES OF WORLD MANUFACTURING

SOURCE: PAUL BAIROCH, "INTERNATIONAL INDUSTRIALIZATION LEVELS FROM 1750 TO 1980"

For nearly a century, U.S. industrial production has held strong.

Gauged by the broadest measures, America isn't doing badly as things stand today. Declinists, who draw fashionably gloomy comparisons to England at the end of the British Empire, are exaggerating. Consider the chart above, based on research by economic historian Paul Bairoch of the University of Geneva. At roughly 32%, the U.S. share of world manufacturing production is about where it was in 1913 and 1938, before the century's two world wars—hardly the profile of a nation on the wane. The slide in the 1950s was actually welcome, for it was evidence that the U.S. had succeeded in helping its allies rebuild economies that had been devastated by World War II. Since then America has held its ground.

THE FORTUNE 500
The list of the largest U.S. industrial companies begins on page 337.

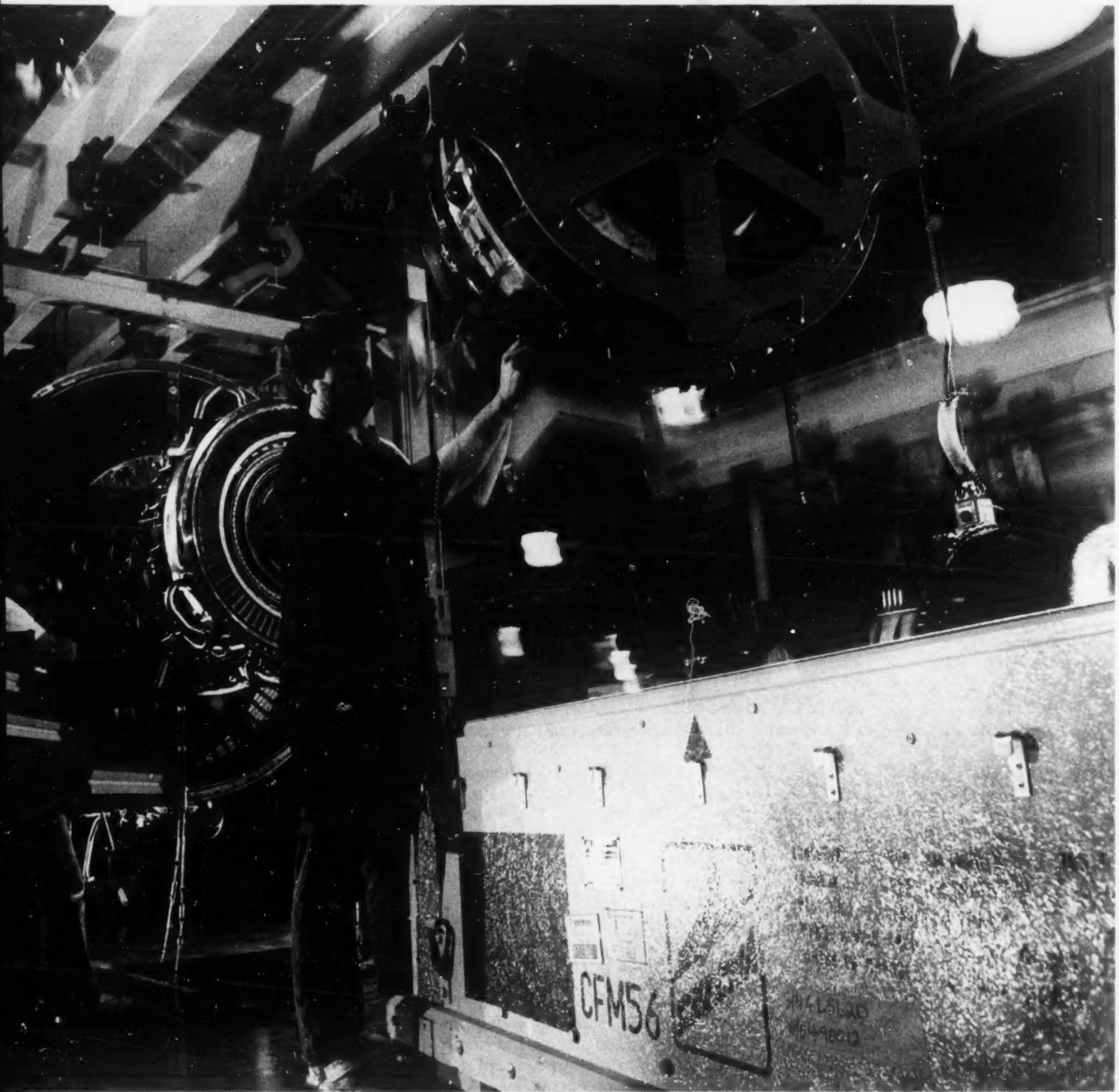
Nor has the U.S. economic engine broken down. Economists Robert Lipsey of Queens College and Irving Kravis of the University of Pennsylvania calculate that the trend-line annual growth of real per capita income in the U.S. has stayed at roughly 2% for more than 100 years. Other nations are expanding faster, but they won't glimpse America in their rearview mirrors anytime soon. Herbert Stein, former chairman of the President's Council of Economic Advisers, recently observed that if the trends of the past six years continue, Japan's per capita output would surpass America's—in 33 years. "That," noted Stein, "is a big if, and a long time."

Does this mean the U.S. has nothing to worry about? No. A number of important warning lights *have* begun flashing in recent years. During the 1980s, American producers lost huge chunks of the market to foreign suppliers of computer chips and machine tools—high-tech sectors crucial to industrial strength in the 21st century. In 1983, Japan's Ministry of Trade and Industry analyzed U.S. and Japanese prowess in 40 key sectors of commercial technology, from assembly robots to skyscrapers. It found Japan lagging in nearly half. In an update of that study five years later, MITI concluded that the U.S. had held its lead in only

Winning through cooperation, a joint venture of General

PHOTOGRAPH BY MICHAEL L. ABRAMSON

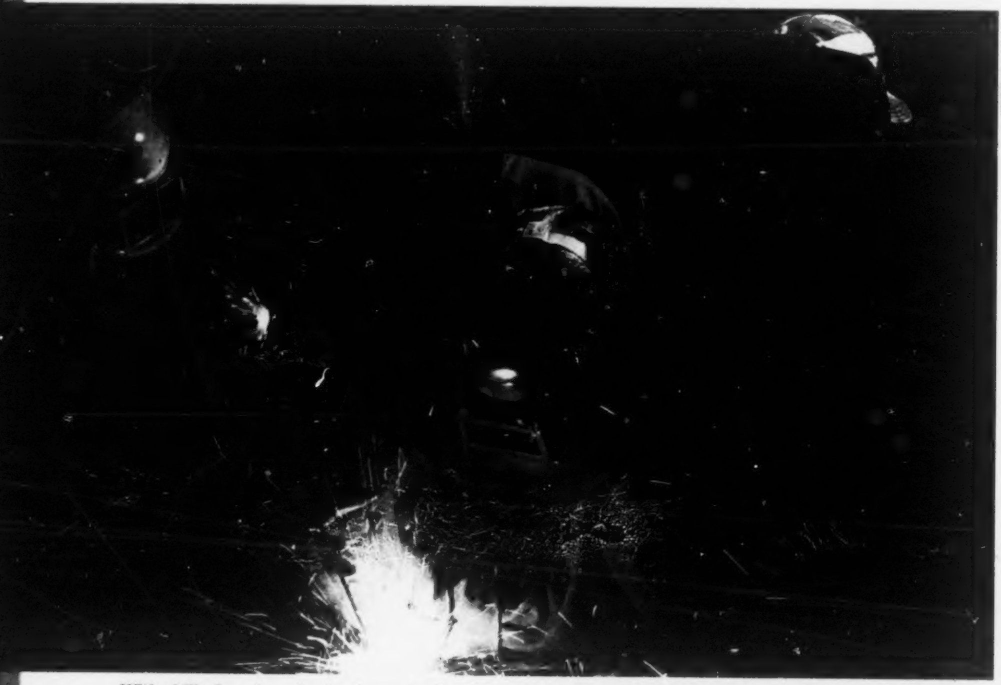
COMPETITIVENESS



Electric and France's Snecma is a leader in the market for civilian jet engines. Here GE workers in Ohio uncrate a turbine assembly made in France.

one area (database software). America continues to spend less on civilian R&D than its rivals: 1.8% of GNP, vs. 2.6% in West Germany and 2.8% in Japan. Most troubling for the future is the huge and continuing gap between U.S. and Japanese productivity growth (see charts).

INDIVIDUAL companies and managers deserve the rap for much of this slippage (see "Lessons From U.S. Business Blunders"). But the government has also served American industry poorly. Says Caterpillar President Donald Fites: "There's less sensitivity to manufacturing than before." The litany of government's shortcomings in recent years is as depressing as it is familiar. Among them: a pathetically inadequate education system and persistently huge budget deficits, which help drive up the cost of capital, foster record trade deficits, and lead to pressures for costly protectionism.



WIL VAN OVERBEEK

With skilled workers in short supply, the U.S. needs more training programs like this one in Arkansas.

Many big American corporations have grown adept at overcoming obstacles without any help from Washington. Take General Electric, which contributed a herculean $4.1 billion to U.S. exports of manufactured goods last year. When GE runs into protectionist barriers, Chairman Jack Welch applies what he calls "company-to-country relations," using GE's connections or muscle in one industry to pry open doors in another.

Three years ago, GE wanted to swap its consumer electronics business for the European medical equipment business of France's Thomson, a state-owned conglomerate. The bureaucrats in the Élysée Palace readily agreed—largely because of the good will created by GE's successful 16-year-old joint venture with Snecma, another government-owned company that makes jet engines. Similarly, in the mid-1980s Texas Instruments got serious about whittling down capital costs when it found it was paying twice as much for funds as chipmakers in Japan. The company has since cut that gap in half. One key, says Chief Executive Jerry Junkins, was gaining the right to sell equity on the superheated Taipei stock market, by agreeing to build a plant in Taiwan with a local partner.

U.S. companies have also begun tackling the country's unmet social needs head on. Boeing, the nation's largest exporter, is providing money and technical help to elementary and high schools in Seattle. "For years we've given money to engineering and computer-science programs at universities," says Dean Thornton, chief of Boeing's commercial aircraft unit. "We have to broaden that now, because the elementary schools aren't getting the job done. The U.S. has got to get off its butt in education."

To maintain its leading role in the world and ensure its citizens better lives, America must do more to boost competitiveness. But it would be a mistake to forge this sense of national purpose with either the tactics or the rhetoric of crusades past. Call this the metaphor problem. Economic competitors such as Japan or the European Community are not enemies but opponents, and sometimes may even be teammates. Unlike war—hot or cold—economic competition can make both sides richer and stronger.

The challenge in this new era, then, is to figure out how to play this game more efficiently—and pursue American economic interests more aggressively—without destroying the international order of free trade and capital movement that the U.S. has nurtured and sacrificed for since the end of World War II. In wide-ranging interviews with executives, government officials, and scholars, FORTUNE has assembled a checklist of moves to make, and pitfalls to avoid, as the nation pursues this goal.

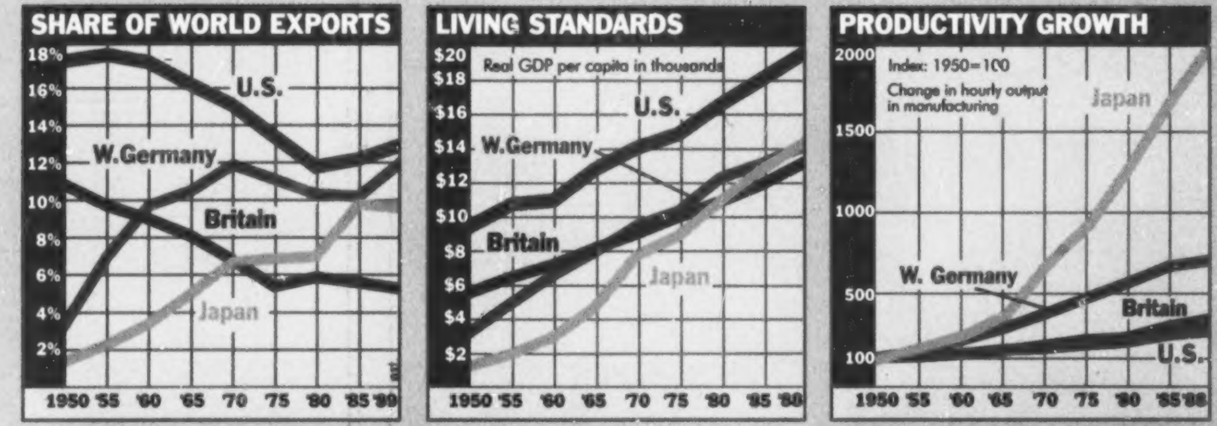
■ **CUT THE BUDGET DEFICIT NOW.** Yes, it's familiar advice, and politically daunting to pull off. But that doesn't mean it shouldn't be done. The best approach is to start with the spending side, though not by hacking away across the board. Some categories of federal expenditure, after all, represent investments: among them, education, research, and transportation. Paying for more in these areas by trimming the share of the budget devoted to consumption is the ideal way to boost competitiveness and national wealth. Programs that deserve a haircut include subsidies for wealthy farmers and entitlements for the middle class that are not means tested, such as Medicare.

If this balancing act can't be maintained and the deficit persists, then taxes will have to rise, as surely as the Washington Monument points skyward. In FORTUNE's view that would be preferable to another decade of gargantuan federal dissaving—as long as the taxes take their bite out of consumption rather than investment.

Many chief executives agree. In a FORTUNE 500/CNN Moneyline Survey last year, 80% of the CEOs polled favored the use of consumption taxes to balance the budget. Most would also like to see Congress change the tax law to encourage more investment, say, by reducing the capital gains tax as President Bush has proposed.

continued

REPORTER ASSOCIATE *Wilton Woods*



AMERICA'S PLACE IN THE COMPETITION RACE

By almost any measure, the U.S. remains the country to beat. Its share of world exports has rebounded after declining for much of the postwar era. Its wealth per capita, adjusted to reflect differences in purchasing power, is unmatched by any major rival. The same goes for total productivity (see table at right): The average Japanese worker still takes until mid-afternoon to produce what the average American can before lunch. Only in productivity growth—the key to future prosperity—does the U.S. look like a country in trouble.

TOTAL PRODUCTIVITY*

	U.S.	Japan	W. Ger.	Britain
1950	$24,062	$ 3,655	$ 8,290	$12,932
1970	$35,670	$16,303	$22,084	$20,768
1988	$41,281	$29,678	$33,605	$29,771

*Output per employed person in 1988 U.S. dollars.

As a political first step, the budget-balancing package proposed last month by House Ways and Means Committee Chairman Dan Rostenkowski is right on four counts. It trims consumption through a one-year freeze on Social Security; it raises the marginal tax rate paid by the rich to levels now imposed on the merely well-off; it keeps America's otherwise low tax rates unchanged; and it draws most of the revenue from putting the touch on alcohol, cigarettes, and gasoline.

■ **STICK WITH FREE TRADE.** With the trade deficit still hanging at $110 billion after 14 years in the red, and foreign purchases of U.S. companies and real estate at record levels, Americans do not approach trade issues in a tranquil frame of mind. Though some observers, such as MIT's Lester Thurow, think a unified Europe will be America's greatest challenger by the end of the 1990s, Japan holds that title today. Its stunning success in seizing markets long dominated by the U.S. and its emergence practically overnight as America's biggest creditor have prompted many economists to reexamine their theories of international trade. Some even speculate that Japanese-style capitalism has made America's free-enterprise approach obsolete. In a Gallup survey last fall, more than half of those polled cited Japan as a greater danger to U.S. security than the Soviet Union.

Such fears are one reason Congress passed the Trade Act of 1988, which requires the White House either to wrest concessions from Japan or to impose higher duties and other sanctions on Japanese goods. Trade Representative Carla Hills is trying to win openings in the Japanese market for U.S. satellites, supercomputers, and lumber. But thus far, vigorous negotiations have produced handwringing, promises, and little else.

Does that mean it's time to give up on free trade? A growing number of politicians and some CEOs think so. Ford Motor's new boss, Harold "Red" Poling, argues that the only way to close the $50-billion-a-year U.S.-Japan trade gap is by delivering an ultimatum. "Just give the Japanese a target, say, reducing the gap by $10 billion a year for five years, and let them figure out how to hit it," he suggests.

But such a showdown would surely hurt both countries and could send the world spiraling back toward Depression-era economic Balkanization. Besides, even neomercantilists with an exaggerated notion of the importance of trade surpluses acknowledge that bilateral imbalances are less critical than the overall balance. In FORTUNE's view, if the U.S. cuts its budget deficit, thereby lowering its need for foreign capital, its trade deficit will continue to decline as America's export competitiveness grows in the 1990s.

continued

Ford Motor is building light trucks in Kentucky for its Japanese ally Mazda.

OVAK ARSLANIAN

WANTED: SMARTER KIDS, SMARTER IMMIGRANTS. Like New Yorkers swapping tales about the subway, managers don't need much prompting these days to spill their guts about the failings of America's schools. Here's a horror story from Motorola. The company recently determined that employees should have at least fifth-grade math skills and seventh-grade reading skills to work in its plants—only to discover that fully half its workers need remedial training to reach this level. Now comes Congress's Office of Technology Assessment (OTA), which offers this grim prediction about the quality of American labor in a February report: "The prospect is that things will get worse, not better." With the growth rate of the U.S. work force declining, employers are drawing increasingly on groups that have long been disadvantaged, such as blacks and Hispanics. Business and government will have to share the enormous cost of training these workers.

Doing its bit for the U.S. trade balance, Boeing exported 81 series 737 jets like this one last year.

LEN JENSHEL

All industrialized economies are facing labor shortages. Where America has a huge competitive edge is in its unparalleled ability to construct a labor force out of a heterogeneous, immigrant population. Says British historian Eric J. Hobsbawm: "The U.S. may be the only major industrial country that already lives in the 21st century, which will be a century of global labor flows."

The U.S. absorbs some 650,000 immigrants per year—more than all other industrialized nations combined. Raising that quota and changing the rules to bring in more immigrants on the bases of their education and skills would be a cost-free way to lift the quality of the U.S. work force while waiting for the long-term payoff from education reform.

STOP PASSING THE BUCK ON PUBLIC WORKS. The Federal Highway Administration reports that 41% of the nation's 575,000 bridges are "structurally deficient" or "obsolete." Some 62% of its highways need to be resurfaced. Not one major airport has been built in the U.S. since 1974, despite a doubling of air traffic in the 1980s. The result: growing gridlock on America's highways and skyways.

The cost is enormous. Traffic delays waste precious fuel and time, aggravate urban smog, and play havoc with just-in-time inventory systems. According to Chicago Federal Reserve Bank economist David Aschauer, underinvestment in public works may have caused fully half the slowdown in U.S. productivity growth since the boom years of the 1960s.

Even economists who think Aschauer's estimate is too high—and many do—agree that this is a problem that needs addressing. The debate is over who pays. President Bush wants to hold federal public works spending constant, even though total physical capital investment by the federal government has shrunk from 24% of federal spending in 1960 to around 11% today. In his new national transportation strategy, Bush calls for shifting much of the financial burden to states, localities, and the private sector. But if the U.S. wants a smooth-running *national* transportation system in the year 2000, Washington will have to pony up much more cash than the President has proposed.

How much? Some estimates are clearly absurd. The National Governors Association puts the bill as high as $3 *trillion* over the next 20 years. That's over half one year's U.S. GNP—the equivalent of taking the entire populace and putting it to work for seven months pouring concrete. At a minimum, though, the federal government has to start spending down the $25 billion surplus it has built up in its highway, inland waterway, and airport trust funds. Today these merely paper over the deficit; they ought to pave the way to greater competitiveness.

ADOPT A NEW TECHNOLOGY POLICY. Back in the 1950s and 1960s, the arms race at least helped galvanize the U.S. economy. Consumers have the Cold War to thank for the speed with which computers, jet airliners, microwave ovens, and the interstate highway system came into being; all these innovations had their roots in defense projects. But in the past 20 years defense R&D has become a drag. It diverts thousands of scientists and engineers from commercial endeavors, and as weapons have grown more exotic, fewer military inventions spill over into marketable products.

Abundant evidence of American decline can be found in civilian high tech. While no nation can lead in every area of technical and manufacturing knowledge, an economy the size of America's should strive to compete in all. Market forces can move the country a long way toward that goal. But the erosion of America's advantage in critical areas is so dramatic that the nation ought to consider hedging its bets.

That's what lawmakers did at former President Teddy Roosevelt's urging in 1915, after aviation enthusiasts warned that Europeans were beating the U.S. in the race to commercialize the Wright brothers' invention. Congress started the National Advisory Committee on Aeronautics, the predecessor of today's NASA, which gave a huge boost to civil aviation. Among its contributions: providing large wind tunnels that none of the struggling aircraft companies of the day could afford.

continued

TERRY HUSEBYE

This massive D10N crawler-tractor has helped Caterpillar keep its No. 1 market share worldwide.

To make a similar move today, the Bush Administration would have to get beyond its aversion to bureaucrats "picking winners and losers" and allow more federal dollars to flow into technologies and manufacturing processes that appear to have long-term commercial promise. At the moment that's just a trickle. In 1986 less than $500 million of the federal government's $56 billion research budget went into industrial research, according to an analysis by Telesis, a Providence, Rhode Island, consulting firm. That same year, Japan focused 80% of government R&D spending—$9 billion—on manufacturing industries.

WITH THE OUTBREAK of peace, the U.S. can afford to spend more than it has in the past. Grandiose investments in such projects as magnetically levitated trains or hypersonic airplanes would be a mistake. It's hard to forget Jimmy Carter's synfuels program, which sucked $2 billion into a lot of technological dry holes. But the government can reduce the likelihood of similar embarrassments by following two simple rules of thumb.

Rule No. 1: Follow where industry leads. If businesses won't put up at least half the money for a project, it's probably not worth funding. Nearly 200 cooperative research ventures have been launched since Congress eased antitrust barriers to them in 1984. The most prominent is Sematech, the semiconductor industry's giant manufacturing research consortium. The government might encourage the most promising of such ventures with matching funds. A recent proposal that deserves consideration: working with industry to bring U.S. homes into the 21st century by replacing their telephone lines with high-capacity optical fibers. This would stimulate rapid development of a whole new generation of consumer electronics products, from facsimile machines to digital television.

Rule No. 2: Support lots of little projects. That has been a winning strategy for Darpa, the Pentagon's agency for advanced R&D, which has scored breakthroughs in fiber optics, high-temperature ceramics, and the computing technique known as parallel processing. Says Intel Chairman Andrew Grove: "You don't need an elaborate new bureaucracy to defend America's technological industries. Just put some additional money in the hands of existing expert agencies that know what the problems are and what can be done."

In the view of shrewd technologists such as Ralph Gomory, the former head of R&D at IBM, keener attention to the nuts-and-bolts of manufacturing is the key to solving America's competitiveness problems. Here Washington's role should be to promote excellence by setting goals, such as the new Baldrige award for quality, and by providing modest grants.

Removing antitrust barriers for joint manufacturing ventures, as President Bush has suggested, would also help spread knowledge of advanced production techniques. But that's also another reason to adamantly resist protectionist pressure to block foreign goods. Nothing would be more devastating to U.S. competitiveness than to have the government create cartels and then shelter them.

FINALLY, Washington should explore ways to make more of the nation's small- and medium-size manufacturers worldclass. Most are not heavily involved in global markets themselves. But as suppliers to big manufacturers, they have an important indirect effect on U.S. competitiveness.

West Germany and Japan have many ways to back up such firms. Japan spends close to $500 million annually on a public network of manufacturing support centers. When the president of Showa Precision Tools, a successful $1.2-million-a-year diemaking company in Yokohama, got ready to buy new equipment for his plant in 1988, he received a free evaluation of his purchase plan from manufacturing experts at the Yokohama city office. (The city will also, upon request, dispatch a *sensei,* or master, to drill shop foremen in quality-control techniques.)

So far the U.S. has only a fledgling $10-million-a-year network, run by the Department of Commerce, to provide technical support. The cost of extending it to even half of America's 350,000 small- and medium-size manufacturers could quickly climb toward moon-shot proportions. One way to hold down the price tag—and provide a market test of the program's effectiveness—would be to charge a small user fee. As long as the network provides useful information, companies should willingly share the cost.

While capitalism now rules the world, it is a diverse, imperfect capitalism that pits American free-marketers against European social democrats and Japanese practitioners of strategic trade. To stay competitive in this friendly free-for-all, the U.S. doesn't need to rethink its basic economic model. It just needs to ensure that, in the areas where business and government inevitably intertwine, its strategies work. F

EAGER TO TAKE ON THE WORLD'S BEST

American chief executives think their companies are readier than ever for the global battle, which they say they'll start winning—especially if the rules allow a fair fight. ■ *by Susan E. Kuhn*

WORRIED about declining American competitiveness? Most CEOs aren't. Two-thirds think that U.S. enterprises in their industries are *better* prepared to face the globe's best than they were five years ago. These chief executives are planning to invest more abroad, and most think the U.S. trade deficit will improve by 1995. Help from the government? The majority of CEOs don't want aid, just the elimination of what they deem to be unfair trade policies, less interference, and a relationship that's more cooperative and less antagonistic. They'll take it from there.

These are highlights of the latest FORTUNE 500 CEO Poll, conducted by the opinion research firm of Clark Martire & Bartolomeo between March 7 and March 16. Respondents were 199 CEOs of FORTUNE 500 and Service 500 companies.

Why the optimism on competitiveness? Some CEOs credit greater emphasis on quality. Says Grumman's John O'Brien: "We have shaken off our lethargy. We are paying more attention to our quality, and that has made us more competitive." Remarkably, at least one industrial CEO acknowledges what many economists consider fact: that the M&A decade forced companies to become fitter competitors. Charles Casey of Constar International, a plastic container producer, says, "The main thrust has come from the financial community. Takeovers and leveraged buyouts have made many industries more efficient."

Q **Compared with their Japanese and European competitors, are the U.S. companies in your industry more or less competitive than they were five years ago?**

A

More	**67%**
Less	**12%**
Same	**9%**
Not applicable	**12%**

Q **To stay competitive, companies everywhere are increasing investment outside their borders. Will foreign investment as a percentage of your total capital spending rise over the next five years?**

A

Yes	**59%**
No	**28%**
Not sure	**13%**

Those who feel they have slipped competitively usually blame government. W. B. Seaton of American President Cos., a freight transport firm, feels particularly disadvantaged by antitrust rules. Says he: "We have antitrust regulations that make us noncompetitive with the Japanese. We need to be able to enter into joint ventures with other American companies and attack foreign markets together." Similarly, several bankers think that restrictive legislation—such as the Glass-Steagall Act, keeping banks out of the securities business—prevents them from building muscle. Says First Interstate Bancorp's Joseph Pinola: "Banking is excessively regulated. We are thwarted because our powers are limited, while the Japanese and the Germans have freedom and are continuing to grow."

Regardless of their competitive positions, most CEOs plan to increase foreign investment by 1995. Air Products & Chemicals of Allentown, Pennsylvania, derives one-quarter of its sales from international operations. CEO Dexter Baker says, "The Pacific Rim and Europe are growing faster than the U.S., so we will probably reinvest more capital there than in the U.S."

"It is very important that we have a long-range vision of where this country needs to be."

MICHAEL L. ABRAMSON

GEORGE FISHER
Motorola

Of course, a large increase in U.S. investment abroad, while a sign of prosperity and aggressive competition, could temporarily worsen America's trade deficit. Some CEOs point to such statistical anomalies as reason to dismiss the panic over a trade deficit. But most say the deficit reflects larger competitiveness problems that the U.S needs to correct. Nearly half the CEOs polled expect the deficit to shrink over the next five years, from $110 billion annually to between $50

Q **In 1989 the U.S. had a trade deficit of roughly $110 billion. In 1995, what do you expect the trade balance to look like?**

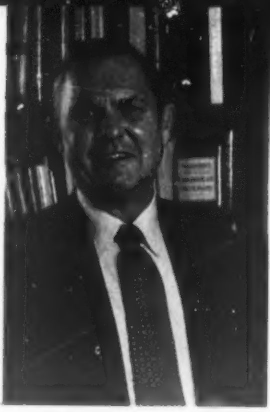
A

More than $150 billion deficit	**7%**
$100-150 billion deficit	**26%**
$50-99 billion deficit	**48%**
$0-49 billion deficit	**14%**
In surplus	**2%**
Not sure	**3%**

REPORTER ASSOCIATE *Sara Hammes*

"If we want a world economy with the best standards of living for everyone, then we have got to eliminate trade barriers."

F. KENNETH IVERSON
Nucor



TONY HOVASINGH

billion and $99 billion. Another quarter, however, think the deficit will *rise* to between $100 billion and $150 billion a year. FORTUNE's forecasters side with the optimists, predicting a decline in the deficit. The WEFA Group of economic forecasters thinks it will shrink to $66 billion in 1995.

The most widely cited cause of the trade deficit is no surprise: It's Japan. Stanley Gault of Rubbermaid speaks for many CEOs when he says, "It is critical that the Japanese recognize that the trade deficit cannot continue. We have a right to open and effective access to their market." Michael Wright of Super Valu Stores, like many other CEOs, finds the Japanese distribution system inefficient and costly. He doesn't buy the argument that Japan's markets are fairly well open. Says he: "We run into enormous restrictions and quotas in Japan that make it difficult for the U.S. to export food there. They are a detriment to free trade."

Q **The U.S. trade deficit with Japan remains stuck at around $50 billion a year. Some argue that the U.S. should set a timetable for reducing the deficit and let the Japanese figure out how to meet it. Do you agree?**

A

Yes	**34%**
No	**59%**
Not sure	**7%**

Despite such impassioned sentiment, most of the CEOs polled favor continued negotiations with Japan rather than playing hardball to reduce the trade imbalance. Only 34% felt that the U.S. should set a deadline for getting trade into balance and leave it to the Japanese to meet it, as many in Washington have proposed. Says O'Brien of Grumman: "Drawing a line in the sand and daring someone to step over it usually doesn't accomplish anything. The Japanese will just draw another line and challenge us." F. Kenneth Iverson of steel producer Nucor echoes, "That would be American arrogance. We can work it out."

DAVID STRICK—ONYX

"Banking is excessively regulated."

JOSEPH PINOLA
First Interstate Bancorp

Asked what government should do to assist business, CEOs were most likely to say it should try to eliminate trade restrictions between nations and equalize those that remain. Many CEOs also thought government could improve U.S. competitiveness through several domestic policies. Among them:

Q **What, if anything, should the U.S. government do to help American business compete?**

A

Eliminate unfair trade policies	**33%**
Be more cooperative with business	**24%**
Interfere less	**20%**
Change tax policies	**19%**
Establish a national competitiveness policy	**13%**

Other responses include: Reduce the cost of capital, improve education, reduce budget deficit.

- Relax overly restrictive antitrust regulations.
- Reduce capital gains taxes and broaden research and development tax credits.
- Lower the cost of capital by reducing the budget deficit. Says Richard Ayers of Stanley Works: "I don't like the fact that the government is out there competing with business for capital. Its need for funds raises interest rates for everyone."
- Be more cooperative toward business. As Fred Bertrand of National Life Insurance says, "In Japan, government is concerned with promoting business. Here, government tends to view its job as prohibitory. The attitude of many people is, 'This is what business wants—it must be wrong.' "
- Establish a national competitiveness policy. Motorola's George Fisher believes the U.S. should give competitiveness the same status in national policy as defense and foreign relations. Says he: "It is very important that we have a long-range vision of where this country needs to be. We need a road map into the future."

For all the prescriptions, a significant minority of CEOs—20%—wish the government would just keep its hands off. Douglas Yearley of the Phelps Dodge mining company says, "Like any good capitalist, I am scared to death of excessive government involvement." George Kennedy of International Minerals & Chemicals puts it bluntly: "Leave us alone and stop meddling."

Q **Should the U.S. government try to assist business by encouraging more immigration of skilled workers?**

A

Yes	**50%**
No	**45%**
Not sure	**5%**

Nearly all the executives polled realize that America faces a shortage of skilled labor, and many praise immigration as a building block of U.S. capitalism. But they split almost evenly over whether encouraging more skilled immigrants would be a sensible part of U.S. policy. Many CEOs insist the real problem is that Americans aren't properly educated. As Upjohn's Dr. Theodore Cooper states, "I don't think importing talent from all over the globe is a suitable substitute for fixing our own education system."

Despite the worries, most of these CEOs are pumped up for the global game. For two centuries the U.S. market was big enough to absorb all the growth of virtually any company. Now the notion that the largest U.S. businesses *must* look abroad has lodged in CEOs' minds and isn't leaving. Baker of Air Products & Chemicals speaks as the archetypal FORTUNE 500 CEO: "There's only one marketplace—so my goal is to supply goods to every nook and cranny of the world." F

SUCCESS SECRETS OF TOMORROW'S STARS

Their products range from disk drives to old tires. What these fast-growing companies on the 500 and its fringe share is a knack for capturing new markets quickly.

■ *by Andrew Kupfer*

IF YOU AIM TO PLAY in the business big leagues, it makes sense to study the moves of the established stars on the FORTUNE 500. But don't ignore the fast-growing, midsize companies struggling to make the majors. Whether battle-scarred veterans or fresh-faced newcomers, they offer valuable lessons about what it takes to prosper against global competition.

This is the fourth year that FORTUNE has published a list of 25 of the brightest talents on the 500's fringe. Four companies from the 1988 farm team won places on this year's 500, led by Mark IV Industries of Williamsville, New York. This conglomerate, which occupies lucrative niches in more than 30 industries ranging from audio systems to traffic lights, used a strategy of expansion by acquisition to catapult to No. 409 on the list. Measured by total return to investors over the past decade, Mark IV ranks even higher: 11th among the 500.

But the hottest comer is Conner Peripherals of San Jose, California. The corporate equivalent to New York Mets fast baller Dwight Gooden, this maker of computer disk drives has been growing so rapidly that it barely paused in the minors, leaping from nowhere to No. 417 in this year's directory. In just its third year of sales, Conner earned $41 million on revenues of $709 million. No U.S. manufacturing company has ever gotten off to such a fast start, and only one—Compaq Computer—has made the FORTUNE 500 as quickly.

Like the rookies on the 500, the 25 members of this year's farm team are a diverse crew. Some are New Age computer companies that have shouldered their way to success as if born fully formed. Others are older outfits in grittier lines of work, such as making steam generators, that have gone through

MICHAEL L. ABRAMSON

An old tire casing gets a high-tech checkup at a Bandag plant in Iowa. For the king of the retread market, double-digit sales growth is the norm.

TOM ZIMBEROFF

The computer disk drive maker founded by Finis Conner is among the fastest-growing companies ever.

midlife crises and emerged rejuvenated. Here's the common denominator: All are succeeding by outracing competitors to market and by helping customers do the same.

Consider Conner. Finis Conner, 46, the company's eponymous founder, tries to ensure success in a notoriously volatile industry by selling product ideas to a big customer *before* he designs them. In this case the customer was Compaq, which bankrolled Conner's startup to get a sure source of disk drives. Sales to Compaq, which still owns 31% of the company, accounted for 90% of Conner's revenues in 1987. By last year that share was down to just 29%, as demand surged from outside customers, including Japanese heavyweights such as Toshiba and NEC.

Before his latest venture, Conner had helped launch two other major disk drive companies, Shugart Associates and later Seagate Technology, which is now the biggest in the business. So he learned the hard way what to avoid: "Don't run out of cash, and don't ever turn down an order." To hit the ground running without running out of money, he decided to buy all components from suppliers rather than make them, and to lease assembly plants. That pinchpenny strategy helped the company show a profit in its very first quarter of sales.

To keep customers from going begging, Conner President William Almon tries to line up assembly space as much as a year before it is needed. Says he: "We have two buildings in Singapore, complete with clean rooms but with no people in them, ready to go." And when it needs to, the company can get the horses saddled quickly. Conner started looking for a European assembly site in January, found some raw factory space in Scotland at the end of February, and began installing equipment in March. By June products should be moving out the door.

Conner's keen nose for customer needs also helped him corner the disk drive market for laptop personal computers and—the latest miniwrinkle—computer notebooks (see Innovation). These have become the fastest-growing types of PC. Steven Ossad, a computer analyst with Montgomery Securities in San Francisco, predicts that the company will pass the $1 billion sales mark this year and forecasts a 65% increase in earnings per share.

Selling semiconductors has been a murderous business in recent years. Still, LSI Logic has not only survived but also made it onto the 500 by being in the right part of a rough industry. Rather than make memory chips—which are not quite as cheap as a dime a dozen, but getting there—LSI produces custom chips that perform specialized functions. By creating a software catalogue that allows customers to mix and match functions electronically, LSI lowered the time it takes to develop a new computer from an industry average of 18 months to six months. Says William Tai, an analyst with stock brokerage Alex. Brown & Sons: "They brought fast time-to-market and integration to the business, and that's what made this company."

In the early days Chairman Wilfred Corrigan, who founded LSI in 1981, spent a bundle on production lines to be ready to supply the next hot machine to sizzle out of Silicon Valley. Then the market changed. Computer makers today bring out new models more frequently and sell fewer units of each; as a result, LSI had to write off factory space last year and took a $25 million loss. To satisfy speed-obsessed manufacturers, LSI turned to "gate arrays"—semifinished chips that need just a few last-minute instructions to be customized and ready to go. With LSI now the world leader in this $2.2 billion market—the other six players among the top seven are Japanese—analyst Tai expects the company to be back in the money this year.

AFTER THREE YEARS on the farm team, La-Z-Boy Chair of Monroe, Michigan, has moved up to the No. 496 spot on the 500 list by going against its industry's grain. La-Z-Boy claims roughly 30% of the U.S. reclining-chair market and enjoys phenomenal name-brand recognition (88% in a recent poll). But unlike their parents, lazy boys and girls from the baby-boom generation tend to be couch potatoes rather than chair potatoes. So instead of sitting on its laurels, the company has been expanding into the faster-growing sofa-bed market. "I like to see how companies do in adverse circumstances," says analyst Elliott Schlang of Prescott Ball & Turben, a Cleveland brokerage firm. "Their industry is not booming, yet La-Z-Boy is setting record results."

To keep up that pace, La-Z-Boy uses computer-aided design to get products from research and development to the showroom in four months instead of ten. Automated cutting machines have helped pare worker hours per chair by nearly 20% since 1987. The company has also cut delivery time to retail customers from ten weeks to six,

REPORTER ASSOCIATE *William E. Sheeline* with a target of four weeks by early 1991.

Another master of a mundane market weighs in near the top of the fringe list: Bandag. About 53% of the 12 million or so worn-out truck and bus tires replaced every year in the U.S. are retreads, and this Muscatine, Iowa, company has nearly half that business. What's attractive about this form of recycling is the economics: Bandag's tires cost $90, vs. $300 for a premium new tire.

BANDAG sells top-of-the-line treads, and the machines to bond them to old tires, to franchised retread shops. While its tires cost slightly more than competing brands, they last longer. That kind of quality counts, particularly overseas. Last year Bandag generated 42% of its sales abroad. Brazil, which has virtually no rail network, is a big market that could get bigger if the radical reforms launched by newly elected President Fernando Collor de Mello take root. So is Europe, where retreads account for nearly two-thirds of truck tire sales. Bandag Chairman Martin Carver, 41, who holds the world land speed record for a diesel truck (150.918 mph), also likes Turkey as a gateway to the Middle East because, he says, "the Turks are real hustlers."

But Bandag's biggest challenge is back home: Goodyear Tire & Rubber, with annual sales of more than $11 billion, has entered the retread market. To counterpunch, Bandag has developed new services, such as a 24-hour-a-day emergency hotline to get blowout victims back on the road. About 6,000 stranded truckers are dialing up each month.

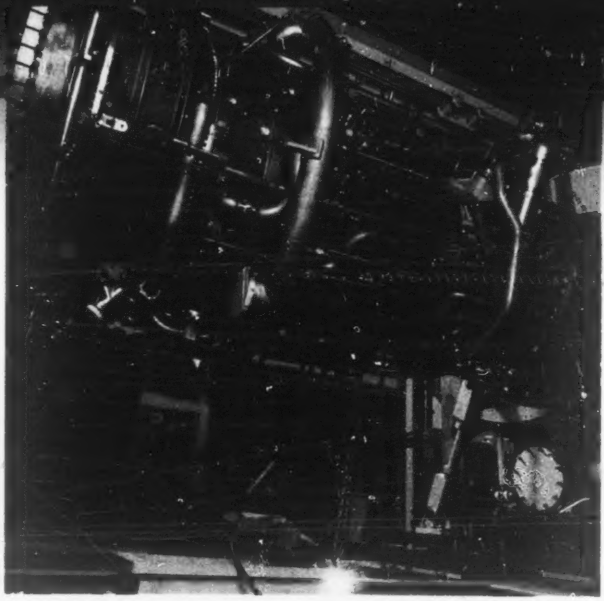
Bandag's Martin Carver likes doing business in Turkey, because "the Turks are real hustlers."

International markets have spurred the growth of Mentor Graphics, the world's biggest producer of electronic design automation systems. Mentor combines hardware from other companies with its proprietary software to allow customers to design any sort of electronic component, from integrated circuits to portable phones to communications satellites. Letting engineers set aside their pencils is nothing new, of course. But on Mentor's computer systems they can run simulations that show whether their brainstorms will work, which saves two to three months as well as the expense of building a prototype. The systems are particularly helpful for semiconductor makers, who must figure out how to cram more circuits onto a chip without increasing design time.

More than half of this Oregon company's sales are abroad. To quickly tap into regional breakthroughs in electronics technology, the company has established research-and-development facilities in Europe and Asia. In the critical Japanese market, it has gone

UP-AND-COMING COMPANIES HEADED FOR THE 500

COMPANY	PRINCIPAL PRODUCTS	1989 SALES $ thousands	1989 NET INCOME $ thousands	1986–89 AVERAGE ANNUAL SALES GROWTH
NORTHWESTERN STEEL & WIRE (Sterling, Illinois)	Steel, wire	$540,960	$18,220	15.0%
BANDAG (Muscatine, Iowa)	Retread tires	$535,159	$75,927	13.1%
JOY TECHNOLOGIES (Pittsburgh)	Mining machinery	$532,755	($11,180)	13.0%
FLS HOLDINGS (Tampa)	Steel	$532,437	$13,114	18.6%
VALSPAR (Minneapolis)	Paint	$526,892	$22,234	14.9%
BETZ LABORATORIES (Trevose, Pennsylvania)	Water treatment chemicals	$518,669	$55,860	14.5%
GOULDS PUMPS (Seneca Falls, New York)	Pumps	$515,039	($1,328)	13.1%
APPLIED MATERIALS (Santa Clara, California)	Wafer fabrication equipment	$508,435	$51,484	50.5%
PLY GEM INDUSTRIES (New York City)	Home improvement products	$506,845	$10,100	30.8%
PALL (Glen Cove, New York)	Fluid filters	$505,888	$57,681	15.1%
ALBANY INTERNATIONAL (Albany, New York)	Paper-processing fabric	$505,474	$44,492	14.5%
QUANEX (Houston)	Steel	$501,991	$29,250	15.6%
SMITH CORONA (New Canaan, Connecticut)	Typewriters	$493,077	$41,994	18.0%
ZURN INDUSTRIES (Erie, Pennsylvania)	Waste-to-energy systems	$490,746	$24,165	8.5%
HOMESTAKE MINING (San Francisco)	Gold	$488,554	$53,324	9.0%
SAFETY-KLEEN (Elgin, Illinois)	Cleaning systems for parts and tools	$478,117	$45,987	23.3%
STEWART & STEVENSON SERVICES (Houston)	Gas turbine power systems	$473,657	$20,803	20.7%
LOCTITE (Hartford)	Adhesives	$466,648	$54,476	20.5%
AST RESEARCH (Irvine, California)	Computer systems	$458,010	($7,469)	38.5%
LADD FURNITURE (High Point, North Carolina)	Furniture	$453,002	$16,747	15.0%
WYSE TECHNOLOGY (San Jose, California)	Computer terminals	$452,313	($21,192)	38.2%
HUFFY (Dayton)	Bicycles	$449,388	$14,993	15.1%
ACME STEEL (Riverdale, Illinois)	Steel	$439,412	$16,200	22.3%
STANDARD MOTOR PRODUCTS (New York City)	Automotive replacement parts	$428,857	$13,143	14.4%
MENTOR GRAPHICS (Beaverton, Oregon)	Computer-aided engineering systems	$380,034	$44,803	29.9%



Stewart & Stevenson's turbine systems provide power for utilities.

WILL VAN OVERBEEK

one step further, setting up a wholly owned subsidiary in Tokyo run by local managers.

"Some of our Japanese customers think Mentor U.S. is a wholly owned subsidiary of Mentor Japan," says Chairman Thomas Bruggere. "We don't discourage that perception." Japan is now the company's most profitable market. If Mentor keeps growing at the 30% clip it has averaged for the past three years, it should vault onto the FORTUNE 500 by 1992.

A number of this year's high-fliers are profiting from rising anxiety over the environment. One is Betz Laboratories of Trevose, Pennsylvania, whose bottom line is writ in water. Big manufacturers in heavy industries, such as steel and paper, use water as an ingredient or a coolant. Betz's specialty chemicals and control devices keep water systems free of small marine creatures, mineral deposits, and corrosion.

In recent years the company has been adept at finding ways to turn the greening of America to its advantage. For example, it has begun delivering its chemicals in returnable containers to eliminate the trouble, expense, and hazard of disposing of 55-gallon steel drums. A new electronic control system warns customers when the concentration of **additives in their water is wrong; users can adjust the mix from a remote computer terminal.** Betz also makes de-inking chemicals and a substance that helps fibers to set as paper is remade—perfect products to ride the current U.S. boom in paper recycling.

Distaste for waste runs deep in the corporate culture. Analyst Donald Pattison of the stock brokerage C.J. Lawrence Morgan Grenfell appreciates management's eschewal of such frills as a fancy address. Headquarters lies on an unassuming macadam road near an auto graveyard. Says Pattison: "My only problem is that everyone who follows the company recommends the stock. Betz has low debt, a high return on equity, and great earnings per share growth." Great consistency too: Profit margins on sales have ranged between 10.3% and 12.4% since 1979.

Another Keystone State leader in the quest for clean energy sources is Zurn In-

6.42pm at the Regent Beverly Wilshire.
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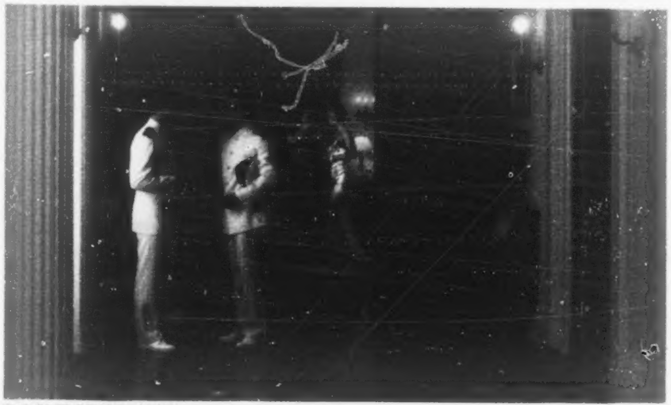

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dustries of Erie, Pennsylvania. A family firm, Zurn was essentially in the boilermaking business until the late 1960s, when brothers David and Frank went on a buying spree. They diversified into ventilator systems, sportswear, and golf clubs, among other things. The company stagnated until 1985, when the outside directors on the board forced the Zurns to resign. George Schofield, a vice president with General Electric, was recruited to take over as chief executive. He immediately began shedding unprofitable operations and steering the company into fast-growing energy and environmental businesses.

ZURN'S FORTE is developing clean-burning power plants that come with built-in recovery systems to capture waste heat. In addition, the company builds and equips power plants that run on alternative fuels, such as wood chips or old tires. "Getting permits to construct major new power stations will continue to be very difficult," says Paine Webber analyst Walter Kirchberger. "These are the ways the U.S. is going to expand its ability to produce electricity." Kirchberger predicts that Zurn can grow at least 15% a year for the foreseeable future. While its profit margins are rarely above 5%, the company has a healthy balance sheet—an essential hole card when playing poker in the high-stakes market for big capital projects.

After a decade in the dumper, Stewart & Stevenson's stock has risen more than eightfold since late 1987.

Like Zurn, Stewart & Stevenson Services endured some miserable years during the past decade. Back in the early 1980s, one of its main businesses was building and servicing offshore oil rigs. When oil prices plunged and the rigs stopped running, Stewart lost money for four consecutive years.

Happily, the Houston company had another business: distributing diesel engines and assembling power systems. When the market for gas turbines heated up—a consequence of rising electricity demand and the scuttling of the nuclear power industry—Stewart saw its chance and pounced. Turbines are popular because they are efficient, clean burning, and easy to set up. Stewart & Stevenson is also big in electric cogeneration—using waste heat at power plants to make steam, which then drives turbines to produce more electricity.

After a decade in the dumper, Stewart & Stevenson's stock has risen more than eightfold since late 1987. The company recently announced results for the fiscal year ended January 30—too late for this year's 500 list. But with sales up 28% to $604 million and profits up 31% to $27 million, it is a good bet to make next year's 500. Chairman and patriarch C. James Stewart II, 64, is the grandson of the founder; his three sons are all senior officers. Says Stewart modestly: "We think we kind of know how to shift with the times." That kind of knowledge is what it takes not just to get to the 500, but to stay there. ■

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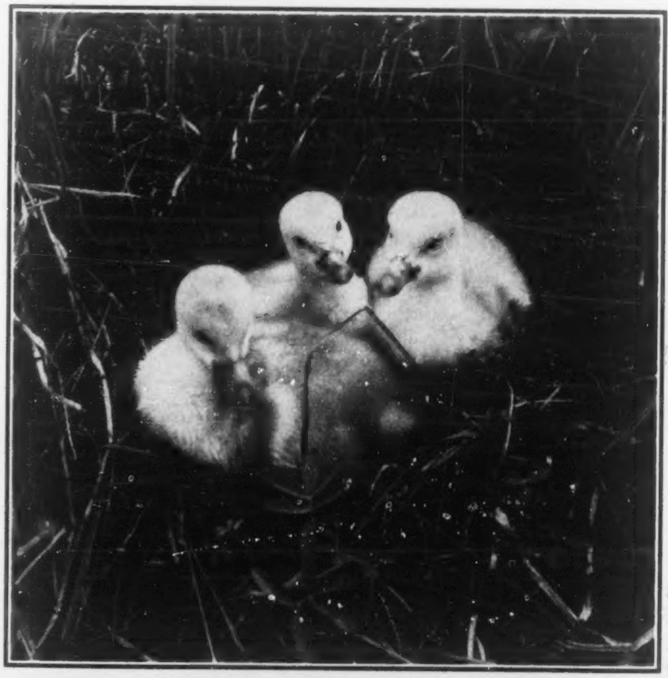

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REWRITING THE EXPORT RULES

Pushing their products and services into the global marketplace, American companies are learning how to get a piece of the action wherever and however they can. ■ *by Monci Jo Williams*

TUNA AND SWEET CORN on pizza? "Yuk," you think? If so, think again: The fish-and-farm combo is the best-selling pie at Domino's 58 pizza restaurants in Japan, ahead of pepperoni, onion and cheese, and green peppers, corn, and ham. At the 34 restaurants in Australia, the favorite is prawns and pineapple. Such oddball adornments of pizza popular in foreign markets put money in the bank for Domino's, which gets 5% of its sales from 330 restaurants in 20 countries outside the U.S.

This is the first lesson of exporting: Take nothing for granted about what people in other countries may like. Lesson No. 2 is a variation on that theme: Take nothing for granted about what you can and cannot export. What you have to sell may not be a product but an idea or a skill. Some "components" that find their way onto a Domino's pizza in Japan—pepperoni, for example—are made in the U.S. and shipped overseas. But most are produced in local markets. Domino's took in $700,000 in fees from international franchises last year—in effect, from the sale of its expertise to foreigners.

Newcomers like Domino's—it began selling abroad in 1982—have helped fuel a powerful resurgence in U.S. exports over the past several years. Exports fell by 6% during the first half of the 1980s; since 1985 they have risen some 60%. In 1988 the U.S. was just about tied with West Germany in share of world exports, well ahead of Japan, and early signs suggest that it reclaimed the lead last year.

Credit part of the rebound to the dollar's descent and to strong economic growth among America's trading partners. But American companies—many old exporters as well as newcomers—have turned aggressive about finding customers wherever they can in the global marketplace for whatever goods or services they can sell. Some have had their eyes opened by foreign competitors who have broken into U.S. markets; others looked for new business overseas when their domestic growth slowed.

Paradoxically, the new aggressiveness is often not reflected in the balance-of-trade statistics—or may even *subtract* from the export total. The reason? Many companies that might have been content to simply export a few years ago are moving faster to serve customers by setting up manufacturing and support activities in their new foreign markets.

continued

REPORTER ASSOCIATE *Sandra L. Kirsch*

In a warehouse near Los Angeles, Alcoa's beverage-can sheet awaits shipment to Asian markets.

STEVE SMITH

FASTEST-GROWING U.S. EXPORTS

		GROWTH RATE 1985 through June 1989 percent change	AMOUNT July 1988 through June 1989 in billions
1	Music, video, and computer tapes; floppy disks	32.3%	$2.5
2	Cigarettes and other tobacco products	30.4%	$3.2
3	Meat	30.0%	$2.7
4	Pulp and wastepaper	27.1%	$4.1
5	Synthetic resins, rubber, and plastics	27.1%	$7.9
6	Electronic components and parts	25.0%	$11.5
7	Electromedical and radiological equipment	23.3%	$2.7
8	Electrical machinery and equipment	19.8%	$4.9
9	Timber	19.3%	$2.3
10	Animal feeds	19.0%	$3.4

OFFICE OF TRADE INFORMATION AND ANALYSIS, DEPT. OF COMMERCE

That's lesson No. 3 for exporters: Think like a global competitor. As the world's economies become increasingly intertwined, where you make a product is less important than ensuring that you get your share of the action as the product or service wends its way along the chain from conception to consumption. The Aluminum Co. of America sells its beverage-can sheet—the stuff used to make soda cans—all over the world. Some of that sheet is made in America, but part is made in Britain, and some more in Australia. Says Ronald R. Hoffman, a group vice president: "If a company really is a global competitor, it is going to be shipping all over the place from all over the place."

Alcoa offers the fourth lesson as well: Beat your best competitor on quality. Last year it shipped about 110 million pounds of beverage sheet to Japanese canmakers from plants in Tennessee and Indiana, capturing 10% of the market in Japan. Now it is gearing up to take advantage of fast-growing beverage sales elsewhere in the Far East and in Europe.

Alcoa developed its thriving export business only after getting whacked with what Hoffman calls a "cold towel in the face" by the Japanese. In 1980 the company was finishing a record year of earnings when the first Japanese competition arrived on American shores. The Japanese were selling sheet for 8% to 10% less than Alcoa and other American manufacturers. "But what our customers really applauded was the quality," says Hoffman. Rolling their sheet on equipment similar to Alcoa's, the Japanese were getting a cleaner surface finish, fewer imperfections, and a greater tolerance for high-speed canmaking processes.

AT FIRST, says Hoffman, Alcoa refused to recognize the competitive threat. "We denied reality. We convinced ourselves that the Japanese were handpicking coils of aluminum sheet to break into the U.S. market. But it didn't take a New York minute for us to figure out that we were going to get nailed over the next few years if we didn't follow up."

To help employees step out of the twilight zone of denial, Alcoa managers took a coil of the Japanese sheet to the rolling plant in Newburgh, Indiana. They cleared a space in the middle of the factory floor, unrolled the coil, and left it there for two weeks. "You could not get through the factory without encountering the Japanese sheet," Hoffman says. The message: If they can do it, so can we.

Alcoa committed $800 million to upgrade and stuck to its modernization plan, even though earnings fell over the next few years as excess capacity flooded world markets. "We laid a lot of money out when not a lot of money was coming in," says Hoffman. "Now we have a profitable, noncyclical business in a market that has taken off."

American ingenuity is still alive and well, and many companies become exporters simply because they've built a better mousetrap. Rad Elec, a tiny, three-year-old company headquartered in Frederick, Maryland, sells radon test kits with a technological edge. Conventional kits use charcoal to absorb radon gas; customers must send the tester off to a laboratory for analysis. Rad Elec's monitor uses an electrostatically charged Teflon wafer to measure the ions floating around in the air when radon decays, so users can get their readings at the site. The result, says Rad Elec, is that its kit is cheaper, faster, and more accurate than competing systems. An import-export outfit got wind of it, approached the company about representing its product, and is now exporting to Sweden and Canada. The next target: Britain.

Most exporters, however, must fight their way into the marketplace. Some make contacts with customers by attending trade shows; some go on export-development tours that the Department of Commerce or state and local governments put together. Anadigics, a small electronics outfit in Warren, New Jersey, opened up new markets by putting on what amounted to its own private trade shows all over Europe.

And so we reach lesson No. 5: Aim at customers who want what you have, and then hustle, hustle, hustle. Anadigics makes gallium arsenide integrated circuits. The gallium arsenide chip was originally developed for use in high-speed computing and defense electronics, but the technology has yet to be perfected for use in computers. Anadigics had planned to offer its chips to mak-

Gallium arsenide chips made in New Jersey by Anadigics Inc. will end up in European satellite dishes.

RICHARD FLYNN

ers of electronic weapons systems, but that market dried up when the U.S. cut defense spending. So the company took off in a different direction, designing the first generation of gallium arsenide chips for use in consumer electronics products and broadcasting. It makes the chips in New Jersey and ships them to London.

There British Satellite Broadcasting, a competitor of Rupert Murdoch's direct broadcast satellite system, installs them in its dishes to receive the programming signal. The Anadigics chip replaces up to 40 components, so the electronics systems on BSB's satellite dishes are cheaper and smaller than in earlier direct broadcasting systems. Anadigics got British Satellite as a customer through seminars it was conducting in Europe for electronics companies—it was offering either to make chips or to hire out its U.S. manufacturing facilities to companies that wanted to design their own. One attendee, Britain's Continental Microwave was readying a bid to manufacture the electronics systems for BSB's satellite dishes and concluded that the Anadigics chips were just what it needed to win *its* prospective customer.

TOM ZIMBEROFF

Oracle Corp. exports software from Belmont, California, to a growing list of over 90 countries.

Lesson No. 6: Play every angle you can. Anadigics captured other European customers by capitalizing on a phobia. Europe's consumer electronics companies, many of which have experimented unsuccessfully with gallium arsenide technology, believe they are in a duel to the death with the Japanese. Figuring that they would be delighted to have a non-Japanese supplier, Anadigics packaged itself as the alternative to doing business with the enemy. Two companies that sent representatives to Anadigics seminars, France's Thomson-CSF and Holland's N.V. Philips, later bought small stakes in the company to ensure future chip supplies. Yet their investments do not preclude it from selling in the Far East. Anadigics has signed up a Japanese distributor that is now showing prototypes of the gallium arsenide chips to Japanese electronics companies.

Typically, companies used to nail down the home market before they began exporting. Now many are moving abroad earlier. Lesson No. 7, from William Delphos, president of Venture Marketing, a consulting firm in Washington, D.C.: "In today's hotly competitive global environment, companies cannot afford to wait to export."

Oracle, a software maker in Redwood City, California, thought global from its inception in 1977 and has grown rapidly as a result. It earned $82 million in fiscal 1989, which ended in May, on revenues of $584 million. (For the first half of fiscal 1990, earnings were up 66% and revenues 87%.) About half the sales came from exports. Oracle's primary markets are Western Europe, Canada, and Australia, but the company also has growing businesses in the Far East, and offices and distributorships in such far-out places as Dubai and Zimbabwe. It has customers in over 90 countries so far, including Poland, Hungary, and Czechoslovakia, and is working on sales to the Soviet Union.

The software Oracle makes lets a company design and graft computer applications—an accounting or electronic-mail system, for example—onto its existing computer operating system. Its benefit is what the data-processing world calls portability. Oracle software can be run on personal computers, minicomputers, and very large computers throughout the same company, so that customers don't have to write a new program for each kind of machine.

ORACLE ALSO provides lesson No. 8: Show your customers you're in their market to stay. Companies don't want to deal with exporters that are just cruising through to pick up a little extra revenue. When Oracle was in its corporate infancy, it exported through distributors. That strategy is often a low-cost necessity for a new company short on cash. But as export sales grew, it bought out the distributors and established its own offices in major export markets. "Every time we made a transition from a distributor to a subsidiary, we saw a substantial increase in sales during the next six months," says John Luongo, senior vice president of the company's international division. "Our visible commitment to the market made all those fence-sitters get off the fence and buy Oracle."

Exporting during the early stages of your product's or company's life cycle brings other rewards. What you learn in foreign markets may prove useful as you build your business elsewhere—even at home. In Oracle's early days its British distributor wanted to offer service as part of a package with the software it sold. Oracle gave the distributor the go-ahead, found that the bundled approach helped sell its software, and made service a key part of its strategy in the U.S. too. Says Oracle's Luongo: "If you define your market in the beginning as being the world, then the rest of the world will help you get your house in shape."

And that is the overarching lesson for exporters who are joining the global battle: Competing today means more than establishing yourself here, there, and everywhere. It means *learning* everywhere—and using what you learn everywhere else.

GET READY FOR THE NEW WORK FORCE

If demographics are destiny, companies that aggressively hire, train, and promote women and minorities—the growing segments of the U.S. labor market—will succeed.

■ *by Joel Dreyfuss*

HAROLD EPPS, who runs the Digital Equipment Corp. plant that makes computer keyboards, manages the work force of the future. The Boston factory's 350 employees come from 44 countries and speak 19 languages. When the plant issues written announcements, they are printed in English, Chinese, French, Spanish, Portuguese, Vietnamese, and Haitian Creole.

According to the Bureau of Labor Statistics, annual work force growth in the U.S. will slow dramatically, from 2% a year for the 1976–88 period to 1.2% for the span between 1988 and the year 2000. That's because the bulge of baby-boomers are aging, with no boomlet of new workers behind them. Only 32% of the new entrants will be white men. Their share of the total labor force will shrink from 51% in 1980 to 45%. Women will make up about 47% of workers, and minorities and immigrants will hold 26% of all jobs, up from 22% now.

The buzzword for recruiting, training, and promoting this new rainbow coalition of workers is "managing diversity." It has become an urgent issue for top executives, as well as a growing business for consultants. Companies from Goodyear to Hewlett-Packard to Procter & Gamble are hiring managers with "diversity" in their titles. Conferences on the new work force are rife, and consultants' practices are booming. Says Jill Kanin-Lovers, a vice president with management consulting firm Towers Perrin: "For the first time at many companies, human resources is a strategic issue."

To survive the population shifts and to prosper amid them, companies are training workers to be more tolerant of language and cultural differences, to identify and re-

The ethnically diverse workers at the Miami airport know where their children are. They go to this learning and day care center at the airport.

PHOTOGRAPH BY BRIAN SMITH

JEFFREY CHONG

In Hartford, Aetna Life's Badi Foster trains inner-city residents to be clerks and word processors.

ject any racial and sexual prejudices, and to be more accommodating to the handicapped. Corporations are also launching literacy programs, allowing more flexible work schedules, and providing child care—even in such unlikely places as the Miami airport. The object: to keep workers happy—sometimes just to keep them. Says James E. Preston, CEO of Avon: "We understand that managing diversity is not something to do because it's nice but because it is in our interest."

That's exactly what makes managing diversity different from affirmative action. While government pressure can be shrugged off—federal law requires companies only to make a good-faith effort to hire minorities and women—demographics cannot. The shrinking work force gives the diversity issue a level of urgency that affirmative action never had.

CORPORATE affirmative action programs, which aim to correct the past exclusion of women and minorities, have brought people through the door. But many companies concede that they have not done enough to move these people up the management ranks. According to the Equal Employment Opportunity Commission, the percentage of managers who are women has grown from 17% in 1978 to 27% in 1988 (vs. 67% for white men). Minorities have moved even more slowly, from 7% to 9.5%.

Still, affirmative action of the Seventies can be a springboard for the broader work force issues of the Nineties. Says Roosevelt Thomas, president of the American Institute for Managing Diversity in Atlanta, a consulting firm that is affiliated with Morehouse College: "Affirmative action addresses issues in a temporary way, providing some short-term relief against discrimination. Managing diversity deals with why we have these problems and how we make the system work for everybody."

King-Ming Young is the project manager for the Managing Diversity Program at Hewlett-Packard, whose U.S. work force is 19% minority and 40% female. "Managing diversity has given affirmative action a new vitality, new objectives, and new language," she says. "The focus of diversity is not on women; it is on the interface between women and men. It is not on blacks; it is on the interface between blacks and whites. In the past the attention was on minorities as a *problem*, on women as a *problem*. Now people should not be stuck with being blamed or feeling guilty."

TO MANAGE the changing work force successfully, consultants contend that companies must revamp their corporate cultures. How? By exposing and deflating negative assumptions about minorities and women, changing the ways workers relate to one another, and transforming some relationships with suppliers and customers. Says Thomas: "Diversity is a way of doing business." Here are some of its principles.

■ **Cast a wide net for workers—that's the only way you'll get enough.** Procter & Gamble says it has been able to recruit minority and women engineers at a higher rate than they are represented at the undergraduate level (10% for minorities, 15% for women). How? By doing what other companies do—sending current em-

ALAN D. LEVENSON

In Los Angeles, Avon representative Micaela Marti makes a call. Urban areas are Avon profit centers.

ployees to recruit on campus—but with greater effort. Some companies try to get to minority talent even sooner. McDonald's provides summer corporate internships and year-round restaurant management programs for minority college students. The young people learn about the company while they get valuable job experience—and managers can look prospects over before they make an offer.

In the seller's market, what prospective employees hear about your place becomes very important. "Companies that don't have a reputation for a level playing field are going to have a tough time recruiting," says Avon CEO Preston. Xerox gives minority prospects reprints of a *Black Enterprise* article rating the company as one of the best places for blacks to work. Hewlett-Packard talks to women candidates about its high rating as an employer in *Working Women*. The companies say that such magazine endorsements—and word of mouth—help recruitment.

To draw mothers and retirees into the work force, many McDonald's and Burger King outlets offer flexible hours. Connecticut's Union Trust Bank solved its 70-branch teller shortage by tailoring a schedule for mothers of young children so that they can have school holidays and summers off.

National Medical Enterprises, one of the largest hospital companies in the U.S., recruits nurses from Ireland and Scandinavia but still has a tough time filling all its jobs in the U.S. Company officials heard that many Chinese health care workers learn English as part of their training. After nine months of negotiations, interrupted by the revolt in Tiananmen Square, 25 Chinese began working at nursing homes in the Boston area last fall. Under an agreement with the Chinese government, the workers will spend 18 months in the U.S. before returning home. Alan Ewalt, a senior vice president at National Medical Enterprises, says the company is so pleased with the results that 35 more Chinese will be coming this year.

■ **Learn to recognize and appreciate individual differences.** The old ideal of a monolithic corporate culture is out. Greater tolerance of differences is in. "With the changing demographics, there's no way companies can impose an Anglo male culture," says Lewis Griggs, a Stanford MBA and co-founder of Copeland Griggs, a firm that produces videos on cultural issues both domestic and foreign. Says Jesse T. Williams, a vice president at Goodyear: "Managers are going to have to learn more about women, more about minorities."

Copeland Griggs has produced a series of seven 30-minute videotapes titled *Valuing Diversity* with funding from 50 corporations, including Hewlett-Packard, Xerox, US West, and P&G. Hundreds of companies and organizations have bought the tapes (at $600 for each title), and many have used them in training sessions. Through interviews with corporate executives and dramatizations, the tapes convey the message that all sorts of people make up corporate life; don't prejudge them; listen to their ideas; make sure they're a part of your formal and informal networks. Workers from various backgrounds and ethnic groups may have unorthodox styles and different values, but they also bring fresh ideas and perspectives that can help your business.

In one scene, an Asian American employee makes a pitch for a managerial job. When his boss asks him why he should get the position, the employee becomes vague and uncomfortable. The boss interprets his hesitation as a lack of aggressiveness. The narrator explains that many Asian cultures consider chest-beating unseemly. His suggestion: The manager should monitor the applicant's work to see if he can handle promotion.

Some of the tapes try to show how to recognize stereotypes. The narrator asks the viewers what they assume the topic of conversation to be when they see a group of blacks or women or white men talking in the office. If the respondents said that the blacks were talking sports, the women were discussing their families, and the men were settling work issues, they would be wrong. As the camera moves within earshot, the black and women employees turn out to be discussing business matters, while the white men are talking about their families.

The tapes suggest that the successful manager will have to navigate through individual sensitivities and cultural pitfalls. If that sounds overdrawn, consider again the polyglot DEC keyboard plant. When a young man from one country tried to give a present to a female co-worker from another, mutual misunderstanding precipitated a crisis on the shop floor. In the man's culture, accepting the gift signaled a romantic interest. The woman didn't share his feelings, but her society considered turning down a gift an unforgivable act. Plant manager Epps says supervisors had to explain the missed signals to both parties to defuse tensions.

King-Ming Young manages diversity programs for Hewlett-Packard.

DOUG MENUEZ

continued

PAT DAVISON

US West's MacAllister, here with some top managers on retreat in Tucson, champions "pluralism."

■ **Be willing to train—you will be happier with the new workers' performance and they will be more loyal to you.** After applications for clerical jobs dropped more than 40% in a year, Aetna Life decided to train its own filing, word-processing, and secretarial employees. The Hartford company launched classes for inner-city residents in basic office skills at its Aetna Institute for Corporate Education in 1988.

The crash courses in clerical and analytic skills can last up to 14 weeks. Applicants, who tend to be 19 to 27 years old, need to pass an aptitude test to be accepted in the program and must be able to do basic math, write a memo, and compose a business letter by the time they finish. Aetna has hired all 47 who have completed the course. (One person dropped out.) Badi Foster, a former professor at the Harvard School of Education who runs the institute, warns that programs like his can't make up for the educational meltdown of the inner cities. "We're dealing with the cream of the crop," says Foster of the black and Hispanic men and women selected. "They've got to be drug-free and have positive self-esteem. If they have kids, they have someone taking care of them."

Donald Stewart, president of the College Board, expects companies to shift more and more of the $80 billion a year they spend on training to remedial education—that is, helping workers learn to read and write. Ford spends over $200 million a year on a variety of remedial and in-house training programs.

■ **Once you land those hard-to-get workers, learn to keep them.** Corning found that between 1980 and 1987, black and women professionals left the company at roughly twice the rate of white men. Chairman Jamie Houghton appointed teams to figure out why. Corning's management committee declared that retaining workers would become an integral part of the company's highly regarded quality-control effort and put group president Richard Dulude in charge as the company's first equal employment opportunity executive. Last year Corning started a diversity training program for managers and professionals to sensitize them to issues of race and gender. The company says that the attrition rate for both blacks and women has declined.

Digital Equipment also found itself more successful at attracting minorities and women than at keeping them. But its team-building programs have helped show each person how valuable he or she is to the entire enterprise. The company assigns a trainer for perhaps ten weeks to a "core group" of eight people who work together on projects or assignments. The trainer puts the group through a series of exercises that try to teach them to trust one another. In one exercise one employee blindfolds another and guides him around the building. DEC won't provide any specifics but says the program has improved the productivity of both manufacturing and field sales groups. (Many companies refuse to share their successful diversity management techniques—they consider them competitive information.)

Avon encourages employees to organize into black, Hispanic, and Asian networks by granting them official recognition and providing a senior manager to act as mentor. These groups help new employees adjust and provide direct feedback to management on problems that concern the groups. For example, when the Hispanic network decided its members needed a leadership seminar, the head of the group went to the chief of human resources to get it. Preston meets at least once a year with each employee group.

The cosmetics company once had a women's network, but it disbanded years ago. With women holding 79% of management positions at Avon, the group became unnecessary. Says Preston: "My objective is an organization where people don't feel a need for a black network, a Hispanic network, or an Asian network, just as women decided they didn't need their network."

Providing child care is one way to keep women employees—and some men too. When AT&T settled its negotiations with its major unions last year, a key clause in the agreement was a comprehensive family care package that included a $5 million allocation to explore ways to provide community-based child care. Drugmaker Johnson & Johnson is building its first on-site day care center in New Jersey. The building, designed by architect I. M. Pei, will accommodate 200 children and include an isolation ward for sick youngsters. Retailer Dayton-Hudson is spending $8 million to help train home care providers so its employees can hire qualified, responsible babysitters. The company expects to train 8,000 over a three-year period.

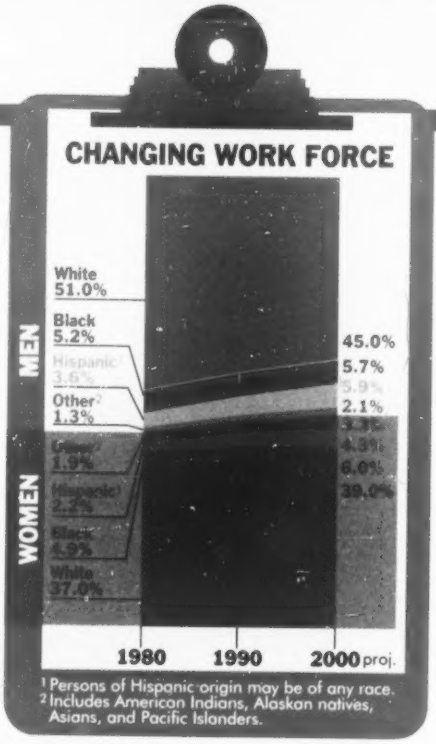
IBM recently committed $25 million to child care and elder care programs. Most of it will go to increasing the number and quality of child care providers in communities where IBM workers live. Citing "the chang-

REPORTER ASSOCIATE *Sara Hammes*

ing social environment," Chairman John Akers said his company wanted to give employees the flexibility to "advance their careers while minimizing the impact on their personal lives."

New York City schools chancellor Joseph A. Fernandez has proposed putting satellite learning centers on corporate premises so parents can be close to their children. Fernandez experimented with the concept when he ran the schools in Miami. One center he set up at the Miami airport has a kindergarten, a first grade, and a day care center. Spokesmen at the center say that parents act as teachers' aides during their time off.

A satellite school at the American Bankers Insurance Group headquarters in downtown Miami not only keeps employees, it also helps recruit them. Philip J. Sharkey, a senior vice president, claims that 25% to 30% of American Bankers' employees said they accepted jobs there because of the satellite school and day care center. Among workers with children at the satellite school, absenteeism has been cut 30% and job turnover has been reduced 4% to 5%.



[1] Persons of Hispanic origin may be of any race.
[2] Includes American Indians, Alaskan natives, Asians, and Pacific Islanders.

As the growth of the U.S. labor market slows, women and minorities, particularly Hispanics, show the strongest gains. White males will make up only 45% of workers in the year 2000.

■ **Don't forget the new work force at promotion time.** Xerox identifies "pivotal jobs" that lead up the corporate ladder and tries to make sure that women and minorities get a shot at them. This widens the pool of eligible candidates when openings occur. And it makes for impressive recruiting. Xerox has 26 black and 17 women vice presidents, out of 270. A. Barry Rand, the black president of Xerox's U.S. marketing group, is one of the six senior executives who report directly to CEO David Kearns.

At P&G every management employee gets a regular career assessment: what skills he or she needs, how and where to get them, and what that employee's next job should be. When the company noticed high turnover among black and women managers at a plant in Georgia, it set up a mentoring program that paired 23 minority managers with a senior employee of their choosing. P&G says the tactic reduced turnover considerably. Robert E. Cannon,

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the senior vice president who oversees diversity programs at P&G, says that career planning is the test of a company's rhetoric about diversity—"It's where the rubber meets the road."

■ **Be prepared to bend your rules.** McDonald's encountered a puzzling problem: Some inner-city teenagers would work a few months and then quit. San Francisco consultant Ronald B. Brown investigated and found that many kids worked toward a specific goal (new clothes, a boom box, prom costs) and then stopped working.

The company began to focus on ways to make the jobs more attractive—even more fun. In some parts of the country, franchise operators have allowed workers to pick the music in work areas and changing rooms. They also let the youngsters wear school sweatshirts or their own clothes on certain days instead of the maroon-and-white uniform. Pat Harris, staff director of affirmative action at McDonald's, says the company and its independent operators are satisfied with the results so far.

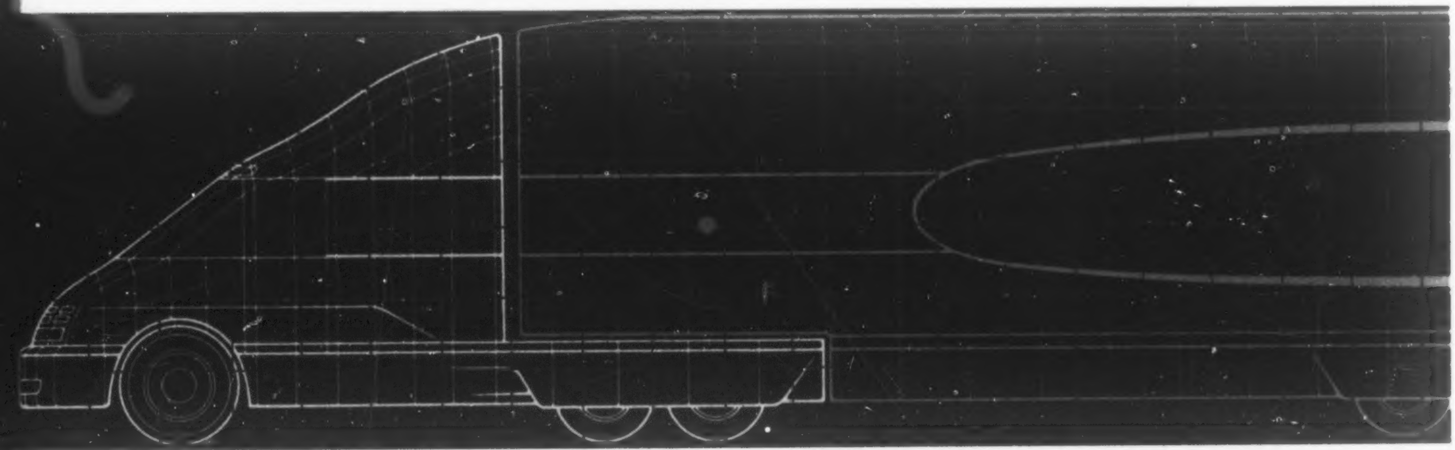
■ **Successful diversity programs need strong commitment from top management.** Xerox Chairman Kearns, Avon's Preston, and US West's Jack MacAllister, among other top executives, preach the connection between diversity and success. When some managers at Xerox wondered whether the Reagan Administration's free-market policies were a sign that they could back off corporate affirmative-action targets, Kearns sent out a strong memo reminding his managers that the diverse work force remained a business goal.

MacAllister has supported what he calls "pluralism" ever since he saw discrimination against a black teammate on his college football team. Says he: "The marketplace today is a diverse one. To be competitive, our work force needs to be diverse as well." According to company officials, 21% of the 300 or so highest-paid executives at US West are minorities and women. MacAllister, whose telecommunications company covers several Southwestern states, contends that having a Hispanic as head of his small-business operation means that the burgeoning Hispanic market won't be ignored.

Avon's Preston can illustrate both the pitfalls of homogeneity and the benefits of a diverse staff. In the 1970s Avon slipped badly, he says, because its mostly male management staff failed to notice the massive shift of women customers from the home to the office. By handing unprofitable inner-city markets over to black and Hispanic sales managers, Avon turned that business around. Now, says Preston, "the most productive markets for us in the U.S. are in the inner city."

FOR 20 YEARS U.S. corporations, pressed by law and conscience, have made uneven progress toward integrating their work force. Now globalization, a shrinking labor pool, and the evolution of ethnic markets at home have further spurred the process. In the rest of this decade and beyond, the companies that come out on top will be those that have learned to attract—and keep—the best workers in the rainbow of talent.

...and Tomorrow's.



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STRONG MEDICINE FOR HEALTH COSTS

Companies feeling blue—or in the red—over feverish employee medical expenses have found some relief. Just take an HMO and add a twist.

■ *by Edmund Faltermayer*

WHAT ARE NOW EQUAL to half of all pretax profits and rising fast? Answer: company health benefits. No wonder managers are desperate And no wonder many of them are marveling at a plan adopted by one big outfit to cut the costs after its own bill spurted 39% in 1987.

Allied-Signal, the aerospace and automotive parts maker in Morristown, New Jersey, made an innovative deal with Cigna, the Philadelphia insurer. Cigna took over the health care of all Allied's non-union employees and guaranteed to hold cost increases to single digits. Result: Cigna, which ran a nail-biting risk, is making good money on the deal. More important, total health costs for employees in Allied's new plan rose last year by a mere 4%.

What Cigna did was simply add a new twist to the old health maintenance organization. Ordinary HMOs, designed to hold down costs, charge fixed annual fees for each member. Patients can see their HMO's doctors—and only them—at no cost or for minimal extra fees. But in Cigna's system, known as the open HMO, or point-of-service system, patients are also free to go *outside* the HMO whenever they need care. In that case, the plan still pays, but only 80 cents on the dollar and only after the year's expenses exceed a fairly stiff deductible. This feature attracts those who might otherwise reject being locked into a limited network of doctors and hospitals. Yet once in the plan, employees rarely use the option to stray outside.

When participants stick with the HMO, they start by seeing one of its "primary-care physicians," the present-day counterparts of the traditional family doctor. Their mission: to treat as much as possible and to act as gatekeepers, barring excessive tests, visits to specialists, and hospitalizations at up to $2,000 a day. This, of course, can substantially reduce costs.

REPORTER ASSOCIATE *Rosalind Klein Berlin*

Enlisted to reduce waste: family doctors like Phoenix's Glen Stockton, with Monica Guzman, 3½

The open HMO has excited so many companies that last November their benefits managers all but broke down the doors to an unpublicized two-day meeting in New York City organized by Allied-Signal to share its experience. On hand was Dr. Paul M. Ellwood Jr., a longtime reformer of the system who heads a Minneapolis medical-research organization called InterStudy. Says Ellwood: "Two-thirds of these companies will be doing the same kind of thing in three years." Employers offering plans like Allied-Signal's, or well along in preparations, include May Department Stores, Marriott, Intel, and Sears.

A few years ago Southwestern Bell's health costs per employee were rising as much as 20% annually. Then the company offered everyone, except those in rural areas and small towns, a point-of-service plan run by Prudential. Last year the increase was considerably less than 10%. For employees using Procter & Gamble's similar plan set up by Metropolitan Life, the annual increase has plunged from 15% to a bit more than 6%. Says Lawrence B. Leisure, head of group benefits at the Towers Perrin consulting firm: "The train is coming down the track in the direction of point of service."

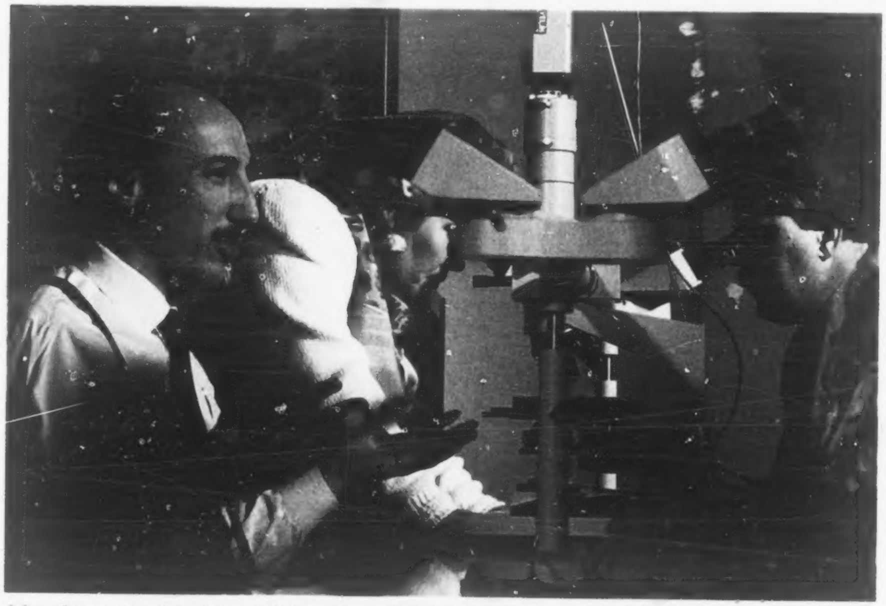
If so, the HMO movement may get a new

PHOTOGRAPH BY STEVE SMITH—ONYX

burst of speed. Membership tripled to 32.5 million in the 7½ years through mid-1989. But according to InterStudy, traditional HMOs grew only 1.7% in last year's first half, while membership in the open variety leaped 14%, to 700,000. Independent HMO companies—those not owned by insurers—are just now designing or testing open-ended versions. But Prudential and Cigna are on a tear.

In ten years, predicts G. Robert O'Brien, head of Cigna's employee benefits business, more than half of all U.S. workers in company health plans will be in HMOs, up from about one-fifth today. Most of the growth, he says, will be in open-ended plans.

Cigna has been aggressively investing in new HMOs, which take about four years to break even. Its HMOs lost $139 million after taxes in 1988, O'Brien says, but only $35 million last year. He promises a profit in 1990. Cigna has just agreed to pay $777 million for Equicor, a joint venture of Equitable Life and Hospital Corp. of America. By adding Equicor's 450,000 HMO members to its own 1.5 million subscribers, Cigna will widen its lead over Prudential as No. 1 among commercial insurers. Also betting heavily are Aetna and Lincoln National.



NINA BARNETT

A free Pap smear, here being jointly analyzed for the Harvard Community Health Plan, cuts expenses.

With so many companies selling the new plans—and good numbers coming from Allied-Signal and others—it seems premature to call for national health insurance. A year ago many corporate chiefs, particularly heads of smokestack companies with more than their share of retirees drawing medical benefits, began clamoring for a government takeover. But this amounts to abandoning hope that competition will ever rein in health costs, and invites the price controls—and possibly rationing—that a government program would bring. Medicare, the federal program for the elderly whose costs have rocketed in the past decade, has already imposed price controls. "If anything is going to save us from national health insurance," says Craig Campbell, chief of benefits planning at Southwestern Bell, "it will be a form of managed care."

The term refers to the array of systems for financing the health costs of employees without giving them carte blanche to spend what they like, as under the still-widespread "indemnity" system (see table). But what if the impressive savings from point of service turn out to be just another pause before the trip on the double-digit escalator resumes?

AMONG DOCTORS, doubters are easy to find. "It's foolish to expect to control health care costs through competition," declares Dr. Arnold S. Relman, editor of the *New England Journal of Medicine*. The problem, he says, is that the suppliers of health services—doctors—are uniquely able to influence demand. The best way to get a grip on costs, Relman argues, is to develop improved "outcomes" data that tell which operations and tests work best and which are wasteful or risky. With that kind of information, the medical system will be able to heal more efficiently and safely than now.

Yet there's no denying that the more closely health costs are managed by insurers or health networks, the lower the premiums and the slower the inflation. Precisely why comes clear from comparing managed care's three basic forms.

■ **UTILIZATION REVIEW.** Only a decade ago nearly all group health insurance provided simple "indemnity" reimbursement: Insurers unquestioningly paid any bill that was not fraudulent. More and more they watch what doctors do in the hope of inducing them to save where they can. In the early Eighties company health plans began requiring prior approval of hospital admissions, except for emergencies. But medical care is like a balloon: Squeeze it here and it bulges there. As hospital stays declined, outpatient treatment surged. So like cops with radar to catch speeders, insurers and others cranked ever fancier software into their computerized claims-processing systems to catch overtreating and overbilling.

The scrutiny at Metropolitan Life's national claims analysis center in Westport, Connecticut, has a touch of the Orwellian. Computers crunch hospital data to spotlight inefficient institutions. Outpatient bills are screened for services beyond what the diagnosis calls for, and for "unbundling"—boosting the tab by charging separately for services that normally are billed together. Just one example: The computers kicked out a claim for a follow-up visit by a patient with hypertensive heart disease. The bill ought to have been about $60, but unnecessary tests and unbundling ran it to $615. The bill was bounced back to both doctor and patient.

Even a small percentage reduction in huge company health costs can send megabucks to the bottom line. Dr. Arnold Milstein of the Mercer Meidinger Hansen benefits consulting firm is in charge of evaluating some 200 utilization review programs, which he calls "persuasion machines" for influencing physician behavior. The best programs chop 5% to 8% from a company's health costs, he says. Alas, these are one-time savings. Thereafter, a company is back on its old inflationary curve, though at a lower base.

■ **PREFERRED PROVIDER ORGANIZATIONS.** Need a coronary bypass? A network called Capp Care can get it for you wholesale—$26,600, vs. a more typical $50,500.

continued

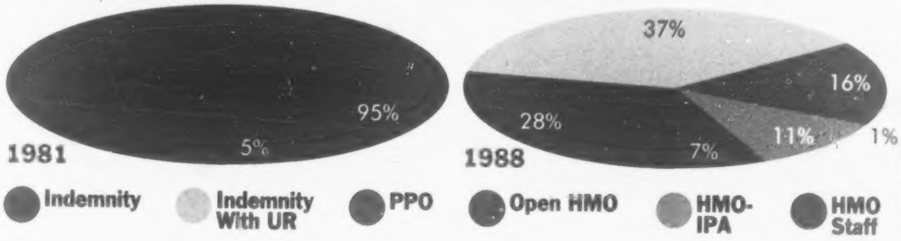
MANAGED MEDICAL PLANS SAVE MONEY . . .

	TYPE OF PLAN	WHAT IT OFFERS	METHOD OF COST CONTROL	ADVANTAGES TO PATIENT	DISADVANTAGES	MONTHLY PREMIUM* Annual inflation rate
LESS COST CONTROL	INDEMNITY	Services from any doctor or hospital	None except screening for fraudulent claims	Choice of any doctor or hospital	Claim forms to file; preventive services not covered	[illegible]
	[illegible]	Services from any doctor or hospital	Prior approval required for hospitalization and certain outpatient procedures	Choice of any doctor and access to any hospital, after prior approval	Additional paperwork to get approval of some services; preventive services not covered	[illegible]
	[illegible]	Services from any doctor or hospital, but at lower cost to employee using network	Discounts negotiated with hospitals and doctors; prior approval required for hospitalization and some outpatient procedures	Higher rate of reimbursement within network	Lower reimbursement outside network; additional paperwork to get approval of some services; preventive services not covered	[illegible]
MORE COST CONTROL	[illegible]	Services from any doctor or hospital, but at lower cost to employee using network	Within network, family doctors manage utilization of services; hospital and physician fees are discounted	Within network, lower co-payments; preventive care covered; no claims forms	Higher cost for services outside network	[illegible]
	HMO WITH INDEPENDENT DOCTORS (IPA)	Services from any hospital or independent doctor affiliated with HMO	Family doctors manage services; hospital and physician fees are discounted	Low co-payments; preventive care covered; no claim forms	Must use approved doctors and hospitals	[illegible]
	HMO WITH STAFF DOCTORS	Services from hospitals under contract with HMO or salaried doctors at its medical centers	Family doctors at HMO medical centers manage services; hospital and physician fees are discounted	Low co-payments; preventive care covered; no claim forms	Must use medical center doctors and approved hospitals	$292 10%

* Nationwide average family premium paid to insurer, including any portion paid by employee.

SOURCE FOR TABLE AND CHARTS: CIGNA CORP

. . . AND ARE WINNING MARKET SHARE



Cigna's spectrum of health plans (table) shows that as managerial control tightens, costs and the anticipated inflation rate shrink impressively. In 1981, aside from a small number in staff, group, and other HMOs, all U.S. workers were in unmanaged "indemnity" health plans; today fewer than half are.

Based in Fountain Valley, California, Capp Care is one of dozens of preferred-provider organizations (PPOs) that sprang up in the mid-Eighties when employers and federal medical programs found groups of hospitals and doctors willing to cut prices in return for an assured volume of patients. Think of PPOs as the medical equivalent of discount clubs whose members cart off bargain washing machines, except that the employer pays the dues and pockets most of the savings.

The number of people eligible to use Capp Care's services leaped last year from 1.1 million to 1.5 million. More and more Blue Cross associations, insurers, and medical groups are lining up these discounters. From practically nothing several years ago, total PPO membership has grown to about one-sixth of those covered by company health plans. PPOs are growing at the expense of indemnity plans. Employers view them as a cost-saving compromise for workers who resist joining an HMO.

In fact, there's no medical enterprise to join. Some PPOs are nothing more than brokered arrangements, which tiny staffs can supervise because insurers or medical groups handle all the paperwork. Employees are not obliged to use the PPO. But to encourage them to do so, companies pay 90% or even 100% of the bill instead of the usual 80% and will even waive deductibles. But there's rarely a gatekeeper-doctor. And neither doctors nor hospitals are "at risk" as in HMOs, which stand to lose if the annual cost of treatment exceeds their subscription income. In short, PPOs offer indemnity health care in carload lots. However, the package often includes utilization review as well as the screening of doctors and hospitals for quality.

A year ago BP America (with the help of the Coopers & Lybrand accounting firm) launched a PPO comprising only hospitals, not doctors, for non-unionized workers. Hospital costs for these employees stayed flat. Down the road, BP looks for annual escalations of 5% to 10%. Southern California Edison has figures almost as good. So does BellSouth, which put together a hospital-only PPO with the help of Blue Cross; next year the company plans to bring in doctors.

Trouble is, inflation can return with a vengeance. In 1984, Florida's Dade County School Board offered its teachers a PPO plan run by Metropolitan Life. Until 1988, says assistant superintendent Susan Weiner, everything seemed "wonderful." But despite utilization review, she says, costs began to zoom: "We saw the doctors in the county making up in repeat visits what they were losing in discounts." In place of the PPO, the school board now offers a point-of-service plan built around Met Life's HMOs.

■ HMOs. On the spectrum of managed care, this is where employers start to get a firm grip on costs. Most primary-care doctors in HMOs are on salary or receive a flat amount based on the number of patients who have chosen them. They may get a bonus if the plan has a good year financially. So they have nothing to gain by running up your bill. For HMO members there's no big bill anyway—at most a modest "co-payment" of $10 per office visit, to deter those who would hog the doctor's time.

The new point-of-service feature adds some luster to traditional HMOs. In 1987 and 1988 they were tarnished by the same trends that drove up health costs in general. The government clamped down on Medicare and Medicaid spending, and hospitals and doctors made up for lost income by raising fees for people in private health plans. The AIDS epidemic and new feats such as liver transplants costing as much as $250,000 swelled expenses. Many HMOs wound up in the red, and Maxicare, one of the biggest, filed for bankruptcy in March 1989. To stanch losses, some of the plans boosted premiums as much as 20%.

Quite a few employers are disillusioned. A Towers Perrin survey shows that only 51% of them believe that HMOs provide better value for the money than other health plans. Many benefits executives have a strong hunch that HMOs siphon off the young and healthy who require little care, thus forcing premiums higher in indemnity plans that attract sick people who already have close ties with doctors outside the network.

Most HMOs don't deserve the bad reputation. William Boyles, editor of the *Health Market Survey* newsletter in Washington, D.C., rates about two-thirds of the country's 600 HMOs as satisfactory or quite good. He says about one-third—generally with small memberships—are "schlock operations" that have indeed tried to skim off the good risks. But the leveling of total HMO enrollment masks a profound shakeout. The weaker outfits have been folding or merging into stronger ones.

The most efficient HMOs are usually the "group" or "staff" type, in which salaried physicians work solely for the organization at its own medical centers. Some are so successful they have been in no hurry to offer the new opt-out feature that Allied-Signal finds so attractive. Examples: Kaiser Permanente, the California-based king of HMOs, whose membership jumped last year by a record 600,000, to a total 6.2 million, and the flourishing Harvard Community Health Plan, with 400,000 members and an 8%-a-year growth rate. Harvard is considering a point-of-service option but has no plans to become a national HMO. Says President Thomas O. Pyle: "The economies of scale derive from increasing your market share within a region."

RICHARD FLYNN

Ripoffs stop at Met Life's Connecticut claims-analysis center, where computers spot padded doctors' bills like the one on the screen.

HMOs save money in myriad ways, and it all starts with the gatekeeper-doctor. Bothered by chest pains? Heart disease is only one of a dozen possible reasons. Short of serious symptoms, the plan's family physician must rule out the other possibilities before sending you to a cardiologist. If you went directly to one, as allowed in an indemnity plan, he too might rule out heart trouble—but he might also go ahead with expensive tests.

Sensitive to talk that they skimp on care, HMOs survey their members to catch any dissatisfaction. This has been honed to a high art at U.S. Healthcare in Blue Bell, Pennsylvania, a type of HMO called an independent practice association (IPA) because its doctors also see other patients. "U.S. Healthcare tells us what the patients think of us," says Dr. David J. Badolato, a family physician in the network. Doctors who don't maintain a variety of standards are dropped.

HMOs' biggest economies are in hospitalization, where they continue to chip away. For people under 65 in Cigna's staff HMO in Phoenix, the hospitalization rate is just about the lowest anywhere: 270 days a year per 1,000 members, barely half the average at indemnity plans. Most mothers get a night's sleep after childbirth and finish resting up with baby at home. Following surgery, many patients are discharged to a less expensive recovery center or are supplied at home with intravenous antibiotics, oxygen, and a nurse.

Patients in HMOs are less likely to go under the knife. "For every ten tonsillectomies done on the outside, we do one," says Dr. Paul Lairson of Kaiser Permanente. Kaiser also performs fewer hysterectomies, he says. In the Los Angeles area, where 30% of women with private insurance have their babies by Caesarean section, Kaiser has reduced the ratio to 16%.

Other savings turn up, big and small. Don't expect a chest X-ray unless there's a good reason; it won't catch lung cancer early, Kaiser says. Members of U.S. Healthcare are only half as likely to wind up in a psychiatric hospital; the HMO favors outpatient care for mental illness and substance abuse. It also deters excessive medical tests by paying outside laboratories and radiologists a flat annual fee. But like other HMOs, this one covers preventive care that indemnity plans don't. Beyond an appropriate age, free tests for colorectal cancer and mammograms are aggressively encouraged.

TWO OBSTACLES have barred HMOs from becoming the mainstream of medicine. There's that persistent suspicion that they get more than their share of the young and healthy. Such talk steams Glenn Hackbarth, vice president of the Harvard Community Health Plan. Membership there *is* slightly younger, he allows, but it includes lots of women in the expensive childbearing years. To counter the creaming argument, HMOs

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have begun to offer discounts to employers whose work forces are significantly younger or cost the plan less money.

The new point-of-service plans are aimed squarely at the other objection, that HMOs force you to stick to a list of participating doctors and hospitals. The marketing approach could not be simpler: Lure 'em in by allowing 'em out. The scenario at Prudential, says senior vice president Samuel Havens, "is that as time goes on, a larger and larger percentage of patients will use the network. And if the trend goes far enough, there will be no more out-of-network services."

To keep employees in the network for Allied-Signal's plan, Cigna tried to enlist many doctors who were already seeing Allied employees. It had the most trouble in New Jersey, a stronghold of indemnity health insurance. Recruiting was far easier in Phoenix, where Allied has a large aircraft jet engine plant and group health plans have a big following. Cigna's network has grown rapidly to accommodate Allied employees, who include most union members. Dr. Glen Stockton, an internist and family practitioner, joined it after some of them requested him. He prefers the HMO to the hassles of utilization review, where "you can get a long-distance call from some faceless person wanting to know why you admitted somebody to a hospital."

And how is the new plan going down with Allied-Signal employees in the area? A sampler of comments runs the gamut. One woman is "very pleased" with her HMO family physician, and a man whose son needed knee surgery says things worked out "wonderfully well." But when another's son had a sports injury, the father had to "call Cigna every day" for permission to see a specialist. Getting past the primary-care doctor to the allergist or dermatologist can be difficult, a couple of other workers complain. Despite the problems, the system is working. An impressive 83% of the eligible employees' health care dollars are being spent within the network. At Southwestern Bell the figure is 80% and rising.

CAMPBELL of Southwestern Bell gives this advice to companies considering a point-of-service plan: Make sure all the stakeholders—employees, doctors, and hospitals—accept the change and make clear that the company is going to "stay the course." Winning over the employees is the challenge today. A few years from now it could be finding enough gatekeepers. Fewer students in medical schools are seeking careers in primary care these days. A new Medicare payment plan for doctors—which raises fees for family physicians and cuts them for some specialists—may reverse this trend, but nobody is sure yet.

Another worry: malpractice suits. In a Michigan case settled out of court, a woman with cervical cancer tried to collect from an HMO whose gatekeeper-doctor refused to allow a Pap smear. Except for a few companies that take care of some employees at their own medical clinics—Gillette, Goodyear—employers contract out all their health care to an insurer or HMO. Until now, that has kept their deep pockets beyond the reach of malpractice suits. But if the company adopts a health plan with a powerful new inducement to go through a gatekeeper, could it be found liable if something went wrong? Companies like Allied-Signal believe they have skirted the danger by relying on the HMO to screen doctors and by allowing employees free choice outside the plan.

"For every ten tonsillectomies done on the outside, we do one," says Lairson of Kaiser. In Los Angeles, Kaiser has halved the ratio of Caesarean births.

The long-term answer, both to malpractice suits and wrestling down costs, is to take the guesswork out of medical care. Ellwood of InterStudy says that new data pinpointing the most effective treatments for 18 major ailments could begin to alter patterns of care within two years. The possibilities excite Kennett Simmons, chief executive of United HealthCare, a big Minneapolis HMO company: "What we have that we never had before is massive amounts of information in computer systems and the computer power to get it out and use it."

That is especially welcome news as the results of plans like Allied-Signal's draw more companies and employees to HMOs—because they, more than any other providers of health care, have the incentives to use new data to bring costs down. Among U.S. companies overall, the killer expense is still definitely at large. But there's reason to hope that some are at last closing in on it. F

FORTUNE

THE FORTUNE

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HANGING TOUGH IN A ROUGH YEAR

■ After zooming to new heights in 1988, the FORTUNE 500 came back to earth last year. And the landing wasn't exactly soft. Profits, which had climbed an unprecedented 79% over the previous two years, fell 8.2%, hammered by higher interest payments and strong foreign competition that made it tough to pass along rising labor costs. Six of the ten largest U.S. industrial corporations posted double-digit earnings declines, led by a 66% drop at No. 8 Chrysler. Though the U.S. economy expanded for the seventh straight year, only 264 companies on the 500 boosted profits, down from 327 last year.

Clearly, things have gotten rough out there. In the 1960s and 1970s, back before global competition became so intense and incessant, the earnings of the 500 companies invariably rose as long as the domestic economy was growing. Not anymore. Since the current economic expansion began in 1982, profits have fallen in three out of seven years. (For more on the performance of the 500 in the past decade, see box.)

Despite—indeed partly because of—the hard knocks they took, the 500 closed out the 1980s in surprisingly good shape. For one thing, they grew: Sales in 1989 rose 7% to $2.16 trillion, a new record. More important, they achieved a median return on shareholders' equity of 15%. While down from a record 16.2% in 1988, that's the third-highest ROE registered by the 500 since FORTUNE began publishing its directory 35 years ago. True, rising corporate

PHOTOGRAPH BY WILL MCINTYRE

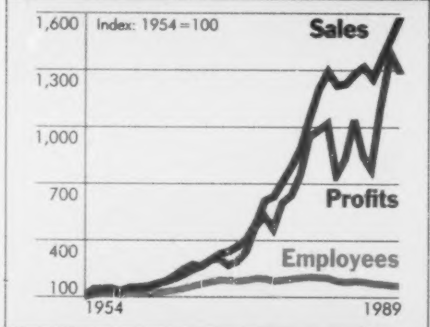
debt, which makes productive resources available without increasing equity, accounts for some of that improvement. But innumerable rounds of restructuring have also transformed many big U.S. companies into leaner, more efficient competitors.

Consider the 500's incredible shrinking work force. At 12.5 million, employment is down 177,000 from 1988 and 3.7 million below the postwar peak of 1979. When they last employed so few workers, back in 1966, the 500 generated sales of $961 billion in inflation-adjusted dollars—less than half as much as last year. Now that's productivity.

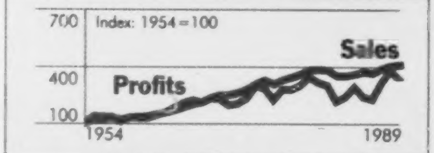
Pharmaceuticals led the charge in 1989, posting the best returns in the 500 for the fourth year running. Countering the prevailing downward drift, the industry's median ROE actually rose from 23.6% to 25.5%—bolstered by strong international sales and price increases of around 8%. American Home Products, which acquired A.H. Robins in December, led all drug-

HOW THE 500 PERFORMED

THE 500: 1954-89 IN CURRENT DOLLARS



THE 500: 1954-89 IN CONSTANT DOLLARS



THE 500: 1989 vs. 1988

	1989	1988
SALES (billions)	$2,164.3	$2,023.1
CHANGE IN SALES	7.0%	7.6%
PROFITS (billions)	$105.6	$115.0
CHANGE IN PROFITS	(8.2%)	26.9%
ASSETS (billions)	$2,288.1	$2,078.8
NO. OF SALES INCREASES	405	419
NO. OF PROFIT INCREASES	264	327
NO. OF MONEY LOSERS	54	42
MEDIAN RETURN ON SALES	4.7%	5.5%
MEDIAN RETURN ON ASSETS	5.9%	6.8%
MEDIAN RETURN ON EQUITY	15.0%	16.2%
MEDIAN RETURN TO INVESTORS	17.5%	14.1%
NO. OF EMPLOYEES (millions)	12.5	12.7

Corning (No. 181) molds high-quality panels for TV picture tubes at this Pennsylvania plant. With sales up 16% and earnings 24%, the glassmaker produced one of the year's better showings.

THE 500 IN THE 1980s

As decades go, this one was no day at the beach. While the economy's expansion set a new peacetime record, companies on the 500 strained harder than ever just to hold their ground. Measured in constant dollars, total sales were only 7.1% higher in 1989 than in 1979. Real profits ended up 3.6% *lower*. All in all, not much to show for ten years of back-breaking effort, particularly set against the giddy increases of the 1960s and 1970s.

Why the slowdown? Falling oil prices are one reason. In 1979 petroleum-refining companies accounted for 26% of the 500's sales and 29% of earnings; in 1989 those shares were 17% and 15%, respectively. And fiercer foreign competition, abetted in the first half of the decade by the strong dollar, shriveled revenue growth and profit margins among many U.S. manufacturers.

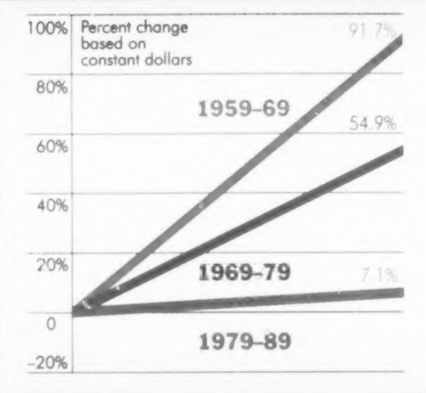
The *d* and *r* words—debt and restructuring—were also rallying cries in the 1980s. When the decade began, companies on the 500 supported $2.17 in assets with a dollar of equity; by 1989 rising debt had lifted that ratio to 3.18. Says Glenn Hubbard, a professor of finance at Columbia University's business school: "What's disturbing is not just that the average level is up, but that a number of companies are very highly leveraged."

By decade's end, restructuring had pared 3.7 million workers from the payroll. The 21% decline in 500 employment since 1980 was considerably steeper than the drop in total U.S. manufacturing jobs.

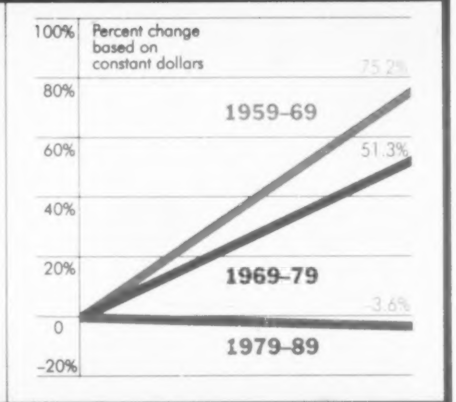
What companies fared best in these tough times? ConAgra, the decade's sales leader, expanded by feverish acquisitions. But No. 2 Digital Equipment's 21.7% average annual sales increases reflect strictly internal growth. Big one-time gains from the sale of cable TV holdings in 1989 boosted New York Times and Dow Jones to the top of the profit table. Still, Dow Jones's consistency is front-page news; it has averaged a 25% return on equity over the past ten years.

– Rahul Jacob

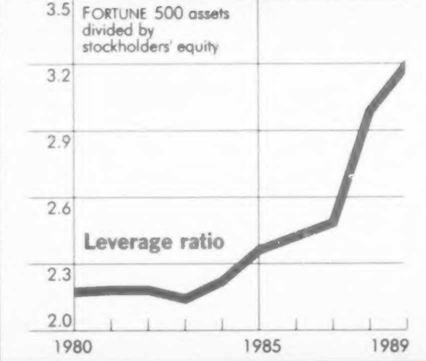
SALES GROWTH BY DECADE



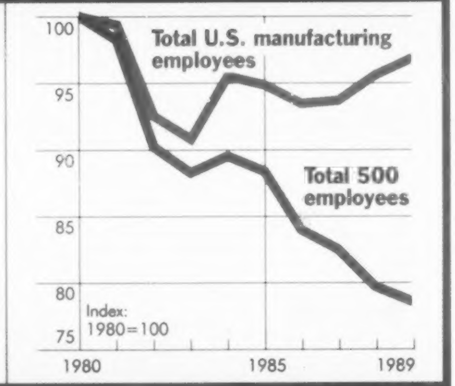
PROFIT GROWTH BY DECADE



RISING DEBT



FALLING EMPLOYMENT



SALES LEADERS

COMPANY	1989 SALES RANK	% CHANGE*
CONAGRA	36	**33.2%**
DIGITAL EQUIPMENT	27	**21.7**
PHILIP MORRIS	7	**20.3**
HEWLETT-PACKARD	33	**17.6**
SEQUA	207	**16.0**
SONOCO PRODUCTS	244	**14.7**
DOW JONES	235	**14.5**
UNISYS	43	**13.7**
ANHEUSER-BUSCH	49	**13.1**
BRISTOL-MYERS SQUIBB	50	**12.8**

Includes only companies whose sales increased every year.
*Average annual compound growth 1979–89.

PROFIT LEADERS

COMPANY	1989 SALES RANK	% CHANGE*
NEW YORK TIMES	227	**22.0%**
DOW JONES	235	**20.0**
DEAN FOODS	240	**19.9**
ABBOTT LABORATORIES	90	**17.0**
H.J. HEINZ	82	**14.3**
SARA LEE	34	**13.9**
EMERSON ELECTRIC	67	**11.3**
ELI LILLY	116	**11.1**
GENERAL ELECTRIC	5	**10.8**
AMERICAN HOME PRODUCTS	68	**10.8**

Includes only companies whose profits increased every year.
*Average annual compound growth 1979–89.

makers—even perennial champ Merck—with an enviable ROE of 56%.

Beverages continued to sparkle. Their median ROE of 23.2% was second only to pharmaceuticals. Profits at Coca-Cola, which accounts for two-fifths of the industry total, rose 65%, in part because of a $509 million gain from the sale of its stake in Columbia Pictures. Robust foreign sales also kept the tobacco sector smoking. Bantamweights UST, maker of Skoal and Copenhagen snuff, and Lorillard, which claims just 8% of the U.S. cigarette market, enjoy profit margins of 28% and 27%, respectively—the best on the 500.

BY THE SAME measure, mining and crude oil companies clambered back from near the bottom of the list in 1988 to second place this year. They also provided a bountiful 51.7% total return to investors, which includes both price appreciation and dividend yield. Disaster provided the silver lining for Union Texas Petroleum, which reaped a windfall insurance settlement after an oil rig explosion in the North Sea halved its worldwide production. That policy, taken out in boom times, paid a hefty $4 premium over the prevailing $15 price per barrel.

Still, for most industries, it was at best a mediocre year. Median profits fell in nine of FORTUNE'S 27 industry groups. Among those registering increases, only five were in double digits, vs. 22 last year. In most hard-hit sectors, a few standouts at least helped cushion the blows. In aerospace, where cutbacks in defense spending devastated many distinguished members of the military-industrial complex, Boeing, buoyed by rising deliveries of its 747 and 757 series jets, saw profits soar 58% on a 20% sales increase.

Earnings among petroleum refiners—the biggest sector by sales in the 500—also stopped gushing and sank 12%. But that hole too would have been drier had giants like Atlantic Richfield, No. 22 on the list, and Texaco, No. 10, not pumped out big earnings increases. In Texaco's case, its 85% rise in profits reflects not some new find but the sale of its Canadian subsidiary and other assets.

Alas, no such savior took the wheel for the motor vehicles and parts industry. Battered by declining sales, Japanese competition, higher interest rates, and cutthroat rebating, profits slumped at all of the Big Three. With median earnings down 25%, this was the poorest performer on the 500 by nearly every measure of profitability.

Foreigners remained eager acquirers of U.S. businesses in 1989, spending a record $61 billion on direct investments. Of the hundreds of companies snapped up by Japanese or European buyers, at least four were from the FORTUNE 500. Among them: last year's No. 97 SmithKline Beckman, which merged with Britain's Beecham Group in a $8 billion deal; No. 70 Pillsbury, bought for $5.8 billion by Britain's Grand Metropolitan; and No. 131 Combustion Engineering, acquired by the Swiss-Swedish giant ABB Asea Brown Boveri. Each of those acquired companies helped inaugurate the first FORTUNE 500 back in 1955.

How much has this foreign feeding frenzy altered the composition of the 500? Somewhat. A total of 17 companies on this year's list, representing $81.1 billion in sales and $3.6 billion in profits, are owned by compa-

THE BIGGEST GAINERS, 1989

THE TEN LARGEST INCREASES IN SALES

	SALES RANK	
MAXXAM	184	**366.7%**
DOSKOCIL	319	**350.3**
CONNER PERIPHERALS	417	**176.4**
TEREX	369	**151.0**
JEFFERSON SMURFIT	154	**133.9**
CRYSTAL BRANDS	372	**98.2**
NACCO INDUSTRIES	313	**92.6**
MARK IV INDUSTRIES	409	**84.2**
TIME WARNER	59	**69.6**
SUN MICROSYSTEMS	232	**68.2**

THE TEN LARGEST INCREASES IN PROFITS*

SUN	46	**1,300.0%**
PILGRIM'S PRIDE	438	**1,092.4**
WESTMORELAND COAL	465	**561.9**
MAXXAM	184	**568.5**
AMSTED INDUSTRIES	341	**475.2**
ARVIN INDUSTRIES	251	**419.0**
HARNISCHFEGER INDUSTRIES	262	**389.5**
GERBER PRODUCTS	312	**284.2**
AMERADA HESS	89	**283.5**
MCCORMICK	299	**217.6**

*Excludes companies that lost money in 1988.

THE BIGGEST LOSERS, 1989

THE TEN LARGEST DECREASES IN SALES

	SALES RANK	
FORT HOWARD	336	**43.3%**
HENLEY GROUP	238	**41.7**
BEATRICE	111	**40.1**
TYLER	468	**39.6**
AM INTERNATIONAL	374	**34.1**
INT'L MINERALS & CHEMICAL	352	**33.2**
HILLSBOROUGH HOLDINGS	236	**31.9**
TESORO PETROLEUM	396	**31.2**
AMSTAR	399	**27.6**
ARMCO	178	**22.7**

THE FIVE LARGEST DECREASES IN PROFITS*

CONTROL DATA	153	**40,123.5%**
PRIME COMPUTER	259	**1,312.4**
ZENITH ELECTRONICS	169	**684.6**
MACK TRUCKS	215	**683.3**
FINEVEST FOODS	422	**657.9**

*Decreases over 100% reflect swings from 1988 profits to 1989 losses.

THE FIVE LARGEST LOSSES

		$ MIL.
RJR NABISCO HOLDINGS	24	**$1,149.0**
CONTROL DATA	153	**680.4**
UNISYS	43	**639.3**
WANG LABORATORIES	147	**424.3**
TIME WARNER	59	**256.0**

THE MOST PROFITABLE, 1989

THE TEN HIGHEST RETURNS ON STOCKHOLDERS' EQUITY

	SALES RANK	
LYONDELL PETROCHEMICAL	93	4,155.6%
GILLETTE	124	373.1
RELIANCE ELECTRIC	275	327.3
GENCORP	211	135.5
WHEELING-PITTSBURGH STEEL	310	115.6
POLAROID	218	97.4
LORILLARD	264	96.7
STERLING CHEMICALS	479	94.1
LEVI STRAUSS ASSOCIATES	128	64.9
PHILLIPS-VAN HEUSEN	444	63.6
THE 500 MEDIAN		15.0

THE TEN HIGHEST RETURNS ON ASSETS

LORILLARD	264	41.1%
GEORGIA GULF	323	40.3
STERLING CHEMICALS	479	31.6
UST	433	29.9
LYONDELL PETROCHEMICAL	93	29.5
MARION LABORATORIES	354	29.0
MERCK	70	22.1
WRIGLEY (WM. JR.)	345	21.3
VISTA CHEMICAL	392	21.2
COCA-COLA	51	20.8
THE 500 MEDIAN		5.9

THE TEN HIGHEST RETURNS ON SALES

UST	433	28.4%
LORILLARD	264	27.0
MARION LABORATORIES	354	23.5
LILLY (ELI)	116	22.5
MERCK	70	22.3
NEWMONT MINING	467	20.9
COCA-COLA	51	18.8
DOW JONES	235	18.5
BERKSHIRE HATHAWAY	179	18.0
STERLING CHEMICALS	479	17.9
THE 500 MEDIAN		4.7

nies on the International 500, up from just seven in 1985. But as a share of total sales and profits, that's still just 3.8% and 3.4% respectively.

Purely domestic deals continued to have a far greater impact. Of the 46 companies that disappeared from the list in 1989, 15 were swallowed by other 500 companies. In the drug industry's richest marriage, Bristol-Myers purchased Squibb for $13 billion and rose from No. 73 to No. 50 on the list. In another big deal, Time Inc., the parent of FORTUNE's publisher, acquired Warner Communications. The combination, christened Time Warner, jumped from No. 102 to No. 59.

A careful reader may note the existence of two companies bearing the name Goodrich on this year's list. That's no mistake. B.F. Goodrich, No. 176, first merged its tire business with Uniroyal in 1986. Last year, still lacking either a blimp or satisfactory earnings from tires, Goodrich decided to keep its chemical operations and unload its 50% stake in the venture with Uniroyal to Clayton & Dubilier, a New York LBO firm. The result is less a spinoff than a case of corporate mitosis. With sales of $2.27 billion, the new company—Uniroyal Goodrich Tire, No. 195—is almost as big as its former parent.

As in years past, leveraged buyouts and spinoffs dominate the ranks of companies with the highest returns on stockholders' equity. That's only partly a tribute to this crowd's management prowess; it also reflects their pint-size equity base. This year's top ten features Levi Strauss (a five-year-old LBO), Reliance Electric (spun off in 1986 by Exxon), and Sterling Chemicals (sent packing in 1986 by Monsanto). But the champ—with sales of $5.4 billion and a jaw-dropping ROE of 4,155.6%—is newcomer Lyondell Petrochemical. This former division of Atlantic Richfield was unloaded last year in the fourth-largest initial public offering on record. It joins the 500 as No. 93.

Another nifty way to boost returns on equity and sometimes shake off potential raiders is to buy back your stock. In 1989 U.S. businesses again pursued that option with a vengeance, retiring some $100 billion more equity than they issued. Among the ten leaders in returns on equity, Phillips-Van Heusen, Gencorp, and Polaroid all bought bucketloads of their own shares.

THE BEST INVESTMENTS

THE TEN HIGHEST TOTAL RETURNS TO INVESTORS, 1989*

	SALES RANK	
SAVANNAH FOODS & INDUST.	328	204.3%
TYLER	468	165.6
IMPERIAL HOLLY	434	140.2
LPL TECHNOLOGIES	431	140.0
FRUIT OF THE LOOM	292	133.3
HON INDUSTRIES	462	110.7
MATTEL	302	107.9
MITCHELL ENERGY & DEVEL.	482	96.7
AVON PRODUCTS	135	95.3
MAXXAM	184	92.8

THE FIVE LOWEST

INTERCO	138	-84.5%
ALLEGHENY INTERNATIONAL	358	-82.7
LONE STAR TECHNOLOGIES	432	-73.6
REXENE	460	-68.0
MACK TRUCKS	215	-53.5
THE 500 MEDIAN		17.5

*Total return includes stock gains plus dividends.

But now with interest rates rising and the junk bond market collapsing, executives have begun to worry less about raiders and more about debt loads. No company had more to worry about than RJR Nabisco. Groaning under the unprecedented borrowing required to finance its purchase by KKR, RJR took a $1.15 billion loss in 1989—the largest among the 500.

Among the Brobdingnagians at the top of the list, the pecking order changed little. GM once again routed all comers for the No. 1 spot with $127 billion in sales, $30 billion more than its closest contender, Ford. The real head-turner, though, was Philip Morris. Fattened by a full year of results following its December 1988 acquisition of Kraft, it rose from No. 10 to No. 7.

THE MOST PRODUCTIVE, 1989

THE TEN HIGHEST TOTAL RETURNS TO INVESTORS, 1979-89 ANNUAL AVERAGE*

	SALES RANK	
HASBRO	277	**51.0%**
SAVANNAH FOODS & INDUST.	328	**48.5**
AFFILIATED PUBLICATIONS	500	**44.4**
MARION LABORATORIES	354	**43.6**
TYSON FOODS	174	**43.4**
NEWELL	321	**40.1**
COOPER TIRE & RUBBER	367	**39.5**
BERKSHIRE HATHAWAY	179	**39.1**
SHAW INDUSTRIES	316	**38.7**
PHILIPS INDUSTRIES	360	**36.7**

THE FIVE LOWEST

ALLEGHENY INTERNATIONAL	358	**-35.0%**
MANVILLE	197	**-24.4**
STORAGE TECHNOLOGY	342	**-23.6**
NAVISTAR INTERNATIONAL	113	**-19.9**
LTV	72	**-17.0**
THE 500 MEDIAN		**16.3**

*Total return includes stock gains plus dividends.

THE TEN HIGHEST IN SALES PER EMPLOYEE

	SALES RANK	
LYONDELL PETROCHEMICAL	93	**$2,596,135**
AG PROCESSING	359	**1,561,293**
CITGO PETROLEUM	105	**1,497,329**
NAT'L COOP. REFINERY ASS'N	437	**1,184,351**
LOUISIANA LAND & EXPLOR.	404	**1,097,372**
AMERICAN PETROFINA	148	**913,548**
TEXACO	10	**874,525**
TOSCO	270	**857,452**
EXXON	3	**833,231**
GEORGIA GULF	323	**819,639**

THE FIVE LOWEST

FRUIT OF THE LOOM	292	**$50,804**
RUSSELL	428	**50,659**
OXFORD INDUSTRIES	489	**50,372**
KELLWOOD	402	**50,245**
SEAGATE TECHNOLOGY	281	**47,666**
THE 500 MEDIAN		**146,887**

THE TEN HIGHEST IN SALES PER DOLLAR OF STOCKHOLDERS' EQUITY

	SALES RANK	
LYONDELL PETROCHEMICAL	93	**$597.11**
RELIANCE ELECTRIC	275	**128.27**
GILLETTE	124	**54.99**
AMERICAN STANDARD	127	**49.78**
NATIONAL GYPSUM	283	**37.58**
HARVARD INDUSTRIES	400	**23.78**
THORN APPLE VALLEY	459	**21.87**
LEAR SIEGLER SEATING	340	**20.55**
PHILLIPS-VAN HEUSEN	444	**19.77**
CYCLOPS INDUSTRIES	286	**18.61**

THE FIVE LOWEST

PENN CENTRAL	226	**$1.00**
ST. JOE PAPER	436	**.86**
ORYX ENERGY	303	**.83**
SEAGOLD VINEYARDS HOLDING	150	**.71**
BERKSHIRE HATHAWAY	179	**.50**
THE 500 MEDIAN		**2.96**

The pacesetters for sales growth, as usual, were the smaller fry. This year's leader with a 367% revenue increase is Maxxam, an acquisitive conglomerate built up since the late 1970s by Houston financier Charles Hurwitz. Maxxam leaped from No. 485 to No. 184 on the list when Hurwitz, armed with junk financing from Drexel Burnham, swooped down on aluminum maker KaiserTech.

But plenty of others rose through the ranks simply by building better—or at least more alluring—mousetraps. Western Publishing Group, which made its maiden appearance on the 500 at No. 498, etched out a 16% sales increase with its Pictionary game, a popular sketch pad version of charades. The fastest-growing newcomer was computer disk drive maker Conner Peripherals, founded in 1986 by Silicon Valley veteran Finis Conner. Last year, Conner's revenues exploded from $257 million to $709 million and No. 417 on the list. Only Compaq Computer, not coincidentally Conner's biggest customer, made the 500 as quickly.

CONNER'S dazzling performance shone even brighter against the darkness that covered much of the computer industry last year. Gaze, for a moment, over that ravaged landscape. Computer makers accounted for three of the five biggest losses in 1989. Control Data and Unisys, which lost $680 million and $639 million, respectively, were old-line mainframe makers struggling to adapt to a new era. The other, minicomputer maker Wang Laboratories, was for a time one of the brightest stars of the 1980s.

Though these were the most extreme cases, almost every computer company seemed to be straining to cope with the problems spawned by the industry's success in squeezing ever more power and speed into ever smaller new machines. Even venerable IBM had a 35% earnings decline. Investors certainly had reason to weep. The computer sector's median total return of minus 17% was the lowest of any industry on the 500. All this, mind you, from an industry destined to be the engine of future economic growth.

Economist Joseph Schumpeter, of course, labeled this paradox at the heart of capitalism long ago: "creative destruction." The decade just ended was only a harbinger. Even more creation and destruction lie ahead. The CEOs of the 500, who know that, have already fastened their seat belts. Fasten yours. The 1990s are likely to be one wild ride.

– Ret Autry and Mark M. Colodny

THE FORTUNE 500

LARGEST U.S. INDUSTRIAL CORPORATIONS

RANK 1989	1988		SALES $ millions	SALES % change from 1988	PROFITS $ millions	PROFITS Rank	PROFITS % change from 1988	ASSETS $ millions	ASSETS Rank	STOCKHOLDERS' EQUITY $ millions	STOCKHOLDERS' EQUITY Rank
1	1	**GENERAL MOTORS** Detroit	126,974.3	4.9	4,224.3	1	(13.0)	173,297.1	1	34,982.5	2
2	2	**FORD MOTOR** Dearborn, Mich.	96,932.6	4.9	3,835.0	3	(27.6)	160,893.3	2	22,727.8	4
3	3	**EXXON** New York	86,656.0*	8.9	3,510.0	5	(33.3)	83,219.0	4	30,244.0	3
4	4	**INT'L BUSINESS MACHINES** Armonk, N.Y.	63,438.0	6.3	3,758.0	4	(35.3)	77,734.0	5	38,509.0	1
5	5	**GENERAL ELECTRIC** Fairfield, Conn.	55,264.0	11.8	3,939.0	2	16.3	128,344.0	3	20,890.0	5
6	6	**MOBIL** New York	50,976.0*	5.8	1,809.0	11	(13.3)	39,080.0	7	16,274.0	6
7	10	**PHILIP MORRIS** New York	39,069.0*	51.1	2,946.0	6	26.1	38,528.0	8	9,571.0	11
8	7	**CHRYSLER** Highland Park, Mich.	36,156.0	1.9	359.0	74	(65.8)	51,038.0	6	7,233.0	15
9	9	**E.I. DU PONT DE NEMOURS** Wilmington, Del.	35,209.0	8.3	2,480.0	8	13.2	34,715.0	10	15,798.0	8
10	8	**TEXACO** White Plains, N.Y.	32,416.0	(3.4)	2,413.0	9	85.0	25,636.0	15	9,180.0	12
11	11	**CHEVRON** San Francisco	29,443.0*	16.9	251.0	107	(85.8)	33,884.0	11	13,980.0	9
12	12	**AMOCO** Chicago	24,214.0*	14.5	1,610.0	13	(22.0)	30,430.0	12	13,684.0	10
13	13	**SHELL OIL** Houston[1]	21,703.0	3.0	1,405.0	15	13.4	27,599.0	14	16,049.0	7
14	15	**PROCTER & GAMBLE** Cincinnati[2]	21,689.0	12.2	1,206.0	17	18.2	16,351.0	24	6,215.0	19
15	19	**BOEING** Seattle	20,276.0	19.5	973.0	21	58.5	13,278.0	30	6,131.0	20
16	14	**OCCIDENTAL PETROLEUM** Los Angeles	20,068.0	3.4	285.0**	88	(5.6)	20,741.0	20	5,899.0	21
17	16	**UNITED TECHNOLOGIES** Hartford[3]	19,765.5	9.3	702.1	35	6.5	14,598.2	27	4,740.3	30
18	18	**EASTMAN KODAK** Rochester, N.Y.	18,398.0	8.0	529.0	45	(62.1)	23,652.0	17	6,642.0	17
19	23	**USX** Pittsburgh	17,755.0*	12.4	965.0	22	27.6	17,500.0	22	5,737.0	22
20	21	**DOW CHEMICAL** Midland, Mich.	17,730.0	6.3	2,487.0	7	3.7	22,166.0	19	7,957.0	14
21	22	**XEROX** Stamford, Conn.	17,635.0	7.3	704.0	34	81.4	30,088.0	13	5,035.0	28
22	17	**ATLANTIC RICHFIELD** Los Angeles	15,905.0	(9.8)	1,953.0	10	23.4	22,261.0	18	6,562.0	18
23	26	**PEPSICO** Purchase, N.Y.	15,419.6	18.5	901.4	26	18.3	15,126.7	26	3,891.1	40
24	20	**RJR NABISCO HOLDINGS** New York[4]	15,224.0†	(10.2)	(1,149.0)	476	(182.5)	36,412.0	9	1,237.0	133
25	25	**MCDONNELL DOUGLAS** St. Louis	14,995.0	(0.5)	219.0	122	(37.4)	13,397.0	29	3,287.0	49
26	24	**TENNECO** Houston	14,439.0	(8.1)	584.0	42	(29.0)	17,381.0	23	3,277.0	50
27	30	**DIGITAL EQUIPMENT** Maynard, Mass.[2]	12,866.0	12.1	1,072.6	20	(17.8)	10,667.8	37	8,035.7	13
28	27	**WESTINGHOUSE ELECTRIC** Pittsburgh	12,844.0	2.8	922.0	25	12.1	20,314.0	21	4,384.0	33
29	28	**ROCKWELL INTERNATIONAL** El Segundo, Calif.[5]	12,633.1	5.7	734.9	33	(9.5)	8,938.8	46	3,977.6	38
30	31	**PHILLIPS PETROLEUM** Bartlesville, Okla.	12,492.0	10.5	219.0	123	(66.3)	11,256.0	34	2,132.0	75
31	29	**ALLIED-SIGNAL** Morristown, N.J.	12,021.0	0.9	528.0	47	14.0	10,132.0	38	3,412.0	47
32	34	**MINNESOTA MINING & MFG.** St. Paul	11,990.0	13.3	1,244.0	16	7.8	9,776.0	40	5,378.0	24
33	39	**HEWLETT-PACKARD** Palo Alto, Calif.[6,7]	11,899.0	21.0	829.0	29	1.6	10,075.0	39	5,446.0	23
34	36	**SARA LEE** Chicago[2]	11,738.3	12.6	410.5	66	26.3	6,522.7	67	1,914.9	87
35	42	**INTERNATIONAL PAPER** Purchase, N.Y.	11,378.0	19.4	864.0	27	14.6	11,582.0	31	5,147.0	26
36	44	**CONAGRA** Omaha[8]	11,340.4	19.7	197.9	133	27.9	4,278.2	103	949.5	161
37	40	**ALUMINUM CO. OF AMERICA** Pittsburgh	11,161.5	13.9	944.9	23	9.7	11,540.6	32	5,266.9	25
38	35	**CATERPILLAR** Peoria, Ill.	11,126.0	6.6	497.0	50	(19.3)	10,926.0	35	4,474.0	32
39	32	**GOODYEAR TIRE & RUBBER** Akron	11,044.7	2.2	206.8	129	(40.9)	8,460.3	53	2,143.8	74
40	47	**UNOCAL** Los Angeles	10,417.0*	17.7	260.0	101	(45.8)	9,257.0	43	2,300.0	71
41	43	**GEORGIA-PACIFIC** Atlanta	10,171.0	7.0	661.0	38	41.5	7,056.0	61	2,717.0	58
42	37	**WEYERHAEUSER** Tacoma	10,105.6	1.0	341.1	75	(39.6)	15,976.0	25	4,147.6	37
43	38	**UNISYS** Blue Bell, Pa.	10,096.9	2.0	(639.3)	474	(193.9)	10,751.0	36	3,881.8	41
44	41	**GENERAL DYNAMICS** St. Louis	10,053.2	5.3	293.1	84	(22.7)	6,548.6	66	2,125.6	76
45	33	**LOCKHEED** Calabasas, Calif.	9,932.0	(6.9)	2.0	416	(99.7)	6,792.0	63	2,062.0	78
46	48	**SUN** Radnor, Pa.	9,927.0*	15.3	98.0	211	1,300.0	8,699.0	48	3,254.0	51
47	45	**JOHNSON & JOHNSON** New Brunswick, N.J.	9,844.0	9.4	1,082.0	19	11.1	7,919.0	56	4,148.0	36
48	52	**MOTOROLA** Schaumburg. Ill.	9,620.0	16.6	498.0	49	11.9	7,686.0	57	3,803.0	42
49	46	**ANHEUSER-BUSCH** St. Louis	9,481.3*	6.2	767.2	30	7.2	9,025.7	45	3,099.9	52
50	73	**BRISTOL-MYERS SQUIBB** New York[9]	9,422.0	57.8	747.0	32	(9.9)	8,497.0	52	5,084.0	27

The definitions, explanations, and footnotes underlying the figures in this directory are on page 367.

MARKET VALUE 3/9/90		PROFITS AS A PERCENT OF						EARNINGS PER SHARE				TOTAL RETURN TO INVESTORS				INDUSTRY TABLE NUMBER	RANK
		SALES		ASSETS		STOCKHOLDERS' EQUITY			% change from	1979-89 annual growth rate		1989		1979-89 annual average			
$ millions	Rank	%	Rank	%	Rank	%	Rank	1989/$	1988	%	Rank	%	Rank	%	Rank		1989
27,786.7	6	3.3	317	2.4	370	12.1	277	6.33	(11.7)	2.3	230	8.2	254	12.2	247	17	1
21,803.7	13	4.6	254	2.4	372	16.9	186	8.22	(25.0)	14.3	66	(8.3)	326	25.4	61	17	2
57,968.7	2	4.1	277	4.2	303	11.6	287	2.74	(30.6)	1.2	245	19.5	202	22.0	99	18	3
61,205.5	1	5.9	182	4.8	272	9.8	317	6.47	(34.0)	2.3	231	(19.4)	369	8.2	289	6	4
56,183.5	3	7.1	136	3.1	348	18.9	142	4.36	16.3	10.9	112	48.8	78	22.3	92	7	5
25,123.7	10	3.5	302	4.6	286	11.1	294	4.40	(13.2)	(0.7)	263	44.3	100	15.6	194	18	6
34,605.3	4	7.5	120	7.6	172	30.8	41	3.18	26.8	20.1	23	69.4	29	30.1	28	8	7
4,063.0	79	1.0	399	0.7	409	5.0	375	1.55	(66.7)	–		(22.7)	379	22.6	88	17	8
26,728.0	9	7.0	142	7.1	194	15.7	207	3.53	16.2	5.1	191	44.8	95	17.7	154	5	9
15,665.8	21	7.4	124	9.4	107	26.3	53	9.12	70.5	3.5	222	42.4	105	17.1	164	18	10
24,261.1	12	0.9	404	0.7	408	1.8	394	0.73	(85.9)	(17.9)	322	55.5	51	15.6	195	18	11
27,750.4	7	6.6	155	5.3	255	11.8	283	3.12	(22.0)	2.0	234	51.8	63	16.7	175	18	12
N.A.		6.5	166	5.1	264	8.8	334	N.A.	–	–		–		–		18	13
21,018.3	14	5.6	197	7.4	187	19.4	138	7.12	19.5	7.4	160	66.4	33	19.0	134	23	14
15,624.3	22	4.8	234	7.3	191	15.9	205	4.23	57.8	6.1	178	50.2	74	18.7	141	1	15
7,431.9	39	1.4	387	1.4	399	4.8	379	1.03**	(14.9)	(17.8)	321	27.9	167	10.3	273	8	16
6,599.9	45	3.6	300	4.8	276	14.8	229	5.34	5.7	5.1	193	36.1	132	14.1	219	1	17
12,893.9	25	2.9	337	2.2	376	8.0	347	1.63	(62.2)	(5.1)	284	(4.9)	313	11.8	252	22	18
9,232.9	31	5.4	202	5.5	249	16.8	187	3.53	34.7	–		27.2	172	13.2	232	18	19
18,009.5	18	14.0	26	11.2	62	31.3	38	9.20	8.2	12.3	89	26.3	175	18.3	148	5	20
5,041.8	66	4.0	280	2.3	374	12.9§	263	6.56	87.4	(0.2)	258	3.0	280	5.2	311	22	21
18,861.0	15	12.3	31	8.8	129	29.8	43	11.26	28.2	9.0	135	44.5	98	17.0	170	18	22
15,459.4	23	5.8	185	6.0	233	23.2	81	3.40	17.2	13.6	73	65.1	36	26.7	52	3	23
N.A.		(7.5)	464	(3.2)	444	(92.9)	441	N.A.	–	–		–		–		8	24
2,220.1	130	1.5	385	1.6	393	6.7	363	5.72	(37.3)	1.2	244	(15.7)	353	8.5	287	1	25
8,516.8	34	4.0	279	3.4	339	17.3§	179	4.46	(18.6)	(1.7)	267	34.4	140	12.5	244	11	26
9,337.6	30	8.3	101	10.1	82	13.3	252	8.45	(14.6)	15.2	57	(16.6)	360	9.1	283	6	27
10,703.5	26	7.2	133	4.5	292	21.0	102	6.31	11.5	–		45.6	88	27.4	48	7	28
5,369.4	59	5.8	189	8.2	145	18.5	155	2.87	(5.6)	12.1	92	13.0	228	18.8	140	1	29
6,249.8	50	1.8	375	1.9	383	10.3	307	0.90	(66.9)	(7.3)	295	35.1	135	11.5	256	18	30
5,220.1	62	4.4	256	5.2	260	15.5	212	3.55	14.5	38.8	2	12.8	231	6.7	301	1	31
18,119.3	17	10.4	60	12.7	44	23.1	82	5.60	10.0	7.2	165	33.0	146	17.0	168	22	32
10,670.3	27	7.0	144	8.2	144	15.2	221	3.52	4.8	15.2	58	(10.7)	342	12.9	234	6	33
6,598.4	46	3.5	304	6.3	225	21.4	96	3.50	23.7	14.5	65	64.2	37	32.1	20	3	34
5,557.9	56	7.6	118	7.5	181	16.3	188	7.72	17.5	3.5	221	25.6	179	16.8	172	9	35
3,142.6	97	1.7	376	4.6	287	20.7§	108	2.45	26.3	15.3	56	50.8	72	35.3	12	8	36
5,736.9	54	8.5	95	8.2	146	17.9	164	10.67	9.5	4.1	215	39.6	118	15.0	205	15	37
6,288.0	49	4.5	250	4.5	291	11.1	295	4.90	(19.3)	(1.5)	265	(7.2)	321	3.5	320	11	38
2,052.1	137	1.9	369	2.4	369	9.6	319	3.58	(41.4)	5.9	181	(11.8)	346	18.9	135	21	39
6,962.3	43	2.5	350	2.8	353	11.3	291	1.11	(46.1)	(2.6)	273	60.9	42	13.9	221	18	40
4,149.0	76	6.5	164	9.4	109	24.3	69	7.42	55.9	9.0	134	35.5	134	10.1	275	9	41
5,323.6	60	3.4	314	2.1	378	8.2	337	1.56	(41.8)	(5.3)	285	14.6	221	6.9	297	9	42
2,335.8	122	(6.3)	462	(5.9)	463	(16.5)	426	(4.71)	(231.6)	–		(45.1)	407	(1.1)	336	6	43
1,570.4	170	2.9	335	4.5	295	13.8	245	7.01	(22.4)	7.4	157	(9.9)	338	6.0	306	1	44
2,251.2	126	0.0	422	0.0	422	0.1	405	0.03	(99.7)	(30.8)	332	(1.9)	302	14.7	211	1	45
3,974.3	80	1.0	400	1.1	402	3.0	390	0.92	1,433.3	(16.9)	320	33.1	145	13.8	223	18	46
18,528.7	16	11.0	51	13.7	31	26.1	56	3.25	13.6	13.0	84	42.6	104	19.2	130	19	47
8,303.8	36	5.2	213	6.5	215	13.1	257	3.83	11.7	8.8	141	41.2	113	15.2	203	7	48
10,011.1	28	8.1	107	8.5	139	24.7	65	2.68	9.4	17.6	38	24.8	185	29.4	31	3	49
28,431.9	5	7.9	111	8.8	126	14.7	232	1.43	(50.3)	5.0	197	28.9	161	23.9	74	19	50

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THE FORTUNE 500

LARGEST U.S. INDUSTRIAL CORPORATIONS

51-100

RANK 1989	RANK 1988		SALES $ millions	SALES % change from 1988	PROFITS $ millions	PROFITS Rank	PROFITS % change from 1988	ASSETS $ millions	ASSETS Rank	STOCKHOLDERS EQUITY $ millions	STOCKHOLDERS EQUITY Rank
51	49	**COCA-COLA** Atlanta	9,170.8	10.0	1,723.8	12	65.0	8,282.5	55	3,485.5	46
52	53	**RAYTHEON** Lexington, Mass.	8,796.1	7.4	528.8	46	8.0	5,338.3	84	2,426.1	66
53	50	**UNION CARBIDE** Danbury, Conn.	8,744.0	5.0	573.0	43	(13.4)	8,546.0	50	2,383.0	67
54	54	**COASTAL** Houston	8,685.6	6.1	170.1	152	8.1	8,773.3	47	1,793.0	94
55	51	**MONSANTO** St. Louis	8,681.0	4.7	679.0	37	14.9	8,604.0	49	3,941.0	39
56	63	**UNILEVER U.S.** New York[10,11]	8,113.8	16.6	139.0	170	4.4	9,379.0	42	2,145.2	73
57	65	**ARCHER DANIELS MIDLAND** Decatur, Ill.[2]	8,056.5	18.5	424.7	60	20.3	4,728.3	98	3,033.5	54
58	55	**ASHLAND OIL** Russell, Ky.[5]	8,016.6*	3.4	86.2	228	(61.5)	4,455.7	101	1,140.5	140
59	102	**TIME WARNER** New York[12]	7,642.0	69.6	(256.0)	472	(188.5)	24,791.0	16	6,756.0	16
60	59	**BORDEN** New York	7,593.4	4.8	(60.6)	453	(119.4)	4,824.9	94	1,645.4	104
61	61	**TEXTRON** Providence	7,440.1	4.6	259.2	102	10.6	13,790.4	28	2,547.1	63
62	62	**TRW** Cleveland	7,408.0	6.1	263.0	99	0.8	5,259.0	85	1,749.0	98
63	64	**BAXTER INTERNATIONAL** Deerfield, Ill.	7,399.0	7.8	446.0	57	14.9	8,503.0	51	4,246.0	34
64	58	**AMERICAN BRANDS** Old Greenwich, Conn.	7,264.7*	(2.8)	630.8	39	8.8	11,394.2	33	2,965.9	55
65	60	**HONEYWELL** Minneapolis	7,241.6¶	1.3	604.1	40	–	5,258.2	86	1,918.2	86
66	87	**DEERE** Moline, Ill.[6]	7,221.0	34.6	380.2	70	20.5	9,145.4	44	2,780.3	56
67	66	**EMERSON ELECTRIC** St. Louis[5]	7,071.3	6.3	588.0	41	11.2	5,408.0	82	3,073.4	53
68	81	**AMERICAN HOME PRODUCTS** New York[13]	6,747.0	22.7	1,102.2	18	18.2	5,681.5	75	1,970.0	84
69	71	**RALSTON PURINA** St. Louis[5]	6,711.6	8.7	422.5	62	8.9	4,381.7	102	831.7	179
70	74	**MERCK** Rahway, N.J.	6,698.4	12.8	1,495.4	14	23.9	6,756.7	64	3,520.6	45
71	68	**TEXAS INSTRUMENTS** Dallas	6,592.2	4.7	291.7	86	(20.4)	4,804.4	95	2,484.9	64
72	56	**LTV** Dallas	6,362.1	(15.5)	264.9	98	–	6,336.2	68	(4,919.8)	489
73	104	**WHIRLPOOL** Benton Harbor, Mich.	6,288.6	42.2	187.2	141	98.9	5,353.5	83	1,421.3	119
74	84	**NORTH AMERICAN PHILIPS** New York[14]	6,202.6	14.4	(178.0)	465	(325.0)	3,879.1	112	1,371.1	123
75	80	**REYNOLDS METALS** Richmond	6,201.0	11.4	532.7	44	10.5	5,555.6	81	2,684.1	60
76	69	**W.R. GRACE** New York	6,114.6	(1.4)	253.2	105	8.4	5,619.1	78	1,722.9	100
77	78	**HOECHST CELANESE** Bridgewater, N.J.[15]	6,016.0	5.9	267.0	96	6.8	6,062.0	71	3,299.0	48
78	72	**NCR** Dayton	5,956.0	(0.6)	412.0	65	(6.2)	4,500.0	100	1,985.0	83
79	67	**HANSON INDUSTRIES NA** Iselin, N.J.[5,16]	5,933.3	(8.6)	760.8	31	153.3	5,811.1	73	2,462.0	65
80	86	**PFIZER** New York	5,903.7	9.6	681.1	36	(13.9)	8,324.8	54	4,535.8	31
81	92	**JAMES RIVER CORP. OF VIRGINIA** Richmond[17]	5,901.6	15.8	255.1	104	22.0	5,558.1	80	2,345.8	68
82	89	**H.J. HEINZ** Pittsburgh[17]	5,831.9	11.2	440.2	58	14.0	4,001.8	108	1,777.2	96
83	79	**PPG INDUSTRIES** Pittsburgh	5,825.2	3.7	465.2	54	(0.5)	5,645.4	76	2,282.3	72
84	77	**MARTIN MARIETTA** Bethesda, Md.	5,814.3	1.5	306.9	81	(14.5)	3,505.4	128	1,355.0	124
85	76	**GENERAL MILLS** Minneapolis[8]	5,798.0	0.4	414.3	63	46.3	2,888.1	152	731.9	200
86	85	**KIMBERLY-CLARK** Dallas	5,777.1	7.1	423.8	61	11.9	4,923.0	91	2,085.8	77
87	88	**QUAKER OATS** Chicago[2]	5,724.3	7.4	203.0	131	(20.6)	3,221.9	139	1,137.1	141
88	95	**CAMPBELL SOUP** Camden, N.J.[18]	5,710.4	17.3	13.1	398	(95.2)	3,932.1	111	1,778.3	95
89	110	**AMERADA HESS** New York	5,589.0	32.9	476.3	51	283.5	6,867.4	62	2,560.6	61
90	94	**ABBOTT LABORATORIES** Abbott Park, Ill.	5,453.5	10.5	859.8	28	14.3	4,851.6	93	2,726.4	57
91	99	**BAYER USA** Pittsburgh[19]	5,424.7	15.0	153.9	161	23.7	4,562.1	99	1,907.5	88
92	93	**BASF** Parsippany, N.J.[20]	5,421.5	8.4	90.0‡	220	(39.7)	3,594.3	123	1,268.5	130
93	•	**LYONDELL PETROCHEMICAL** Houston	5,374.0	14.4	374.0	72	(31.1)	1,267.0	259	9.0	460
94	122	**STONE CONTAINER** Chicago	5,360.7	43.2	285.8	87	(16.4)	6,253.7	70	1,347.6	126
95	82	**BETHLEHEM STEEL** Bethlehem, Pa.	5,305.9	(3.3)	245.7	111	(39.0)	4,793.3	96	2,002.9	81
96	114	**APPLE COMPUTER** Cupertino, Calif.[5]	5,284.0	29.8	454.0	55	13.4	2,743.9	155	1,485.7	112
97	91	**CHAMPION INTERNATIONAL** Stamford, Conn.	5,254.2	2.5	432.4	59	(5.3)	7,530.8	59	3,588.5	44
98	75	**NORTHROP** Los Angeles	5,200.0	(10.3)	(80.5)	458	(177.3)	3,200.0	140	875.1	173
99	90	**DANA** Toledo	5,156.7	(0.3)	132.1	177	(18.6)	5,225.4	88	1,019.9	154
100	96	**LITTON INDUSTRIES** Beverly Hills[18]	5,130.3	5.5	178.3	143	6.7	5,257.7	87	1,267.7	131

The definitions, explanations, and footnotes underlying the figures in this directory are on page 367.

MARKET VALUE 3/9/90 $ millions	Rank	PROFITS AS A PERCENT OF SALES %	Rank	ASSETS %	Rank	STOCKHOLDERS' EQUITY %	Rank	EARNINGS PER SHARE 1989/$	% change from 1988	1979-89 annual growth rate %	Rank	TOTAL RETURN TO INVESTORS 1989 %	Rank	1979-89 annual average %	Rank	INDUSTRY TABLE NUMBER	RANK 1989
24,265.1	11	18.8	7	20.8	10	49.5	18	4.92	72.6	15.8	51	76.9	21	26.8	51	3	51
4,068.4	78	6.0	180	9.9	84	21.8	93	8.01	9.0	9.8	123	6.7	265	10.8	270	7	52
3,132.4	98	6.6	159	6.7	206	24.0	75	4.07	(16.6)	3.7	217	(6.0)	315	15.5	198	5	53
3,343.4	91	2.0	365	1.9	384	9.5§	322	1.81	0.6	–		46.4	84	13.9	222	18	54
7,244.9	41	7.8	112	7.9	163	17.2	182	10.03	21.3	8.2	148	45.5	90	19.8	121	5	55
N.A.		1.7	378	1.5	397	6.5	364	N.A.	–	–		–		–		23	56
5,711.5	55	5.3	210	9.0	119	14.0	241	2.27	22.2	18.3	32	75.2	22	16.1	185	8	57
2,049.2	139	1.1	398	1.9	385	7.6	355	1.55	(61.3)	(14.9)	315	22.4	193	12.7	238	18	58
5,897.8	53	(3.3)	453	(1.0)	428	(3.8)	414	(4.34)	(186.6)	–		13.6	224	22.3	93	20	59
4,660.4	73	(0.8)	428	(1.3)	432	(3.7)	413	(0.41)	(119.4)	–		19.3	203	29.6	30	8	60
2,223.7	129	3.5	305	1.9	388	10.2	310	2.91	9.0	2.6	228	7.8	258	12.0	249	1	61
3,007.8	101	3.6	301	5.0	267	15.0	223	4.31	0.5	3.6	219	23.2	190	14.3	216	7	62
6,212.9	51	6.0	179	5.2	258	10.5	306	1.50	14.5	5.9	182	45.7	87	9.7	277	22	63
6,165.1	52	8.7	87	5.5	248	20.9§	104	6.51	11.5	8.1	150	12.3	234	22.7	86	25	64
3,410.0	90	8.3	100	11.5	58	31.5	37	14.18	–	9.1	133	49.6	76	11.2	260	7	65
5,435.6	58	5.3	211	4.2	306	13.7	247	5.06	12.9	(0.1)	257	31.3	156	8.3	288	11	66
9,007.2	33	8.3	102	10.9	69	19.1	141	2.63	13.9	8.9	140	32.7	147	17.0	169	7	67
15,951.3	20	16.3	14	19.4	11	55.9	14	7.07	10.8	10.9	111	34.5	139	20.4	117	19	68
5,097.3	64	6.3	172	9.6	99	49.2§	19	6.44	14.4	18.4	31	3.4	278	26.6	54	8	69
27,085.4	8	22.3	5	22.1	7	42.5	22	3.78	23.9	16.2	49	37.5	127	23.9	73	19	70
3,015.6	100	4.4	253	6.1	229	11.7	284	3.04	(24.9)	1.9	238	(10.8)	344	3.9	316	7	71
162.9	389	4.2	270	4.2	305	–		2.06	–	(10.2)	301	(50.0)	411	(17.0)	353	15	72
2,299.4	124	3.0	333	3.5	331	13.2	255	2.70	98.5	5.8	185	38.4	124	18.7	143	7	73
N.A.		(2.9)	448	(4.6)	456	(13.0)	424	N.A.	–	–		N.A.		–		7	74
3,233.5	95	8.6	91	9.6	102	19.8	126	9.20	2.1	7.1	167	3.0	281	17.3	160	15	75
2,542.3	119	4.1	272	4.5	293	7.7§	351	2.97	8.0	1.7	239	31.6	152	11.0	267	5	76
N.A.		4.4	252	4.4	298	8.1	342	N.A.	–	–		N.A.		–		5	77
4,853.5	69	6.9	147	9.2	113	20.8	107	5.38	0.9	9.4	130	12.7	232	16.1	186	6	78
N.A.		12.8	30	13.1	36	30.9	40	N.A.	–	–		N.A.		–		5	79
9,960.1	29	11.5	41	8.2	148	15.0	224	4.04	(14.0)	9.5	125	24.2	188	17.2	163	19	80
1,917.5	146	4.3	259	4.6	289	10.9§	300	2.87	21.6	11.5	101	0.9	292	19.5	125	9	81
7,806.0	37	7.5	119	11.0	67	24.8	64	3.34	14.8	15.4	55	54.0	57	31.1	23	8	82
4,402.2	75	8.0	110	8.2	142	20.4	115	4.18	(1.9)	9.4	126	1.9	285	23.7	75	5	83
2,185.0	131	5.3	209	8.8	131	22.7	83	5.82	(13.8)	10.7	114	12.4	233	16.3	179	1	84
5,489.8	57	7.1	135	14.3	25	56.6	13	5.06	55.7	13.2	81	44.0	101	25.4	60	8	85
5,223.6	61	7.3	128	8.6	133	20.3	116	5.26	11.7	4.6	207	31.0	157	27.5	46	9	86
3,613.3	87	3.5	303	6.3	224	17.9	167	2.56	(20.0)	8.0	152	11.0	241	27.5	45	8	87
6,339.1	48	0.2	417	0.3	416	0.7	402	0.10	(95.3)	(20.5)	324	90.2	12	27.9	42	8	88
3,914.7	82	8.5	93	6.9	199	18.6	149	5.87	288.7	(0.3)	260	57.3	45	10.5	271	18	89
14,297.6	24	15.8	16	17.7	14	31.5	36	3.85	15.6	17.9	35	44.6	97	23.6	77	19	90
N.A.		2.8	338	3.4	337	8.1	343	N.A.	–	–		N.A.		–		5	91
N.A.		1.7	382	2.5	368	7.1	357	N.A.	–	–		N.A.		–		5	92
1,430.0	182	7.0	145	29.5	5	4,155.6	1	4.67	–	–		N.A.		–		5	93
1,280.4	195	5.3	205	4.6	290	21.2	99	4.76	(16.3)	24.4	10	(23.4)	381	21.9	102	9	94
1,382.6	186	4.6	241	5.1	263	12.3	274	2.93	(44.9)	(7.4)	296	(19.6)	370	1.6	327	15	95
4,775.2	71	8.6	90	16.5	17	30.6	42	3.53	14.6	–		(11.5)	345	–		6	96
2,637.7	114	8.2	104	5.7	241	12.0§	278	4.56	(5.0)	(0.3)	259	3.0	282	6.4	305	9	97
805.6	258	(1.5)	435	(2.5)	441	(9.2)	421	(1.71)	(177.0)	–		(33.6)	397	5.9	307	1	98
1,340.4	189	2.6	348	2.5	366	13.0	261	3.24	(18.8)	(0.3)	261	(7.2)	320	12.5	242	17	99
1,751.4	158	3.5	306	3.4	334	14.1	239	7.05	11.4	4.8	202	7.5	261	8.7	285	7	100

RANK			SALES		PROFITS			ASSETS		STOCKHOLDERS' EQUITY	
1989	1988		$ millions	% change from 1988	$ millions	Rank	% change from 1988	$ millions	Rank	$ millions	Rank
101	107	**COOPER INDUSTRIES** Houston[21]	5,129.4	20.5	267.8	93	19.3	6,745.0	65	2,696.2	59
102	100	**CPC INTERNATIONAL** Englewood Cliffs, N.J.	5,129.3	9.1	327.5	77	13.3	3,704.7	117	1,217.6	134
103	83	**COLGATE-PALMOLIVE** New York	5,110.2	(6.8)	280.0	91	(11.9)	3,536.5	127	1,123.2	144
104	98	**SCOTT PAPER** Philadelphia	5,065.6	7.2	375.5	71	(6.3)	5,746.3	74	2,060.8	79
105	●	**CITGO PETROLEUM** Tulsa[22]	4,941.2	20.2	161.0	159	(2.8)	1,586.9	226	591.5	227
106	101	**AMERICAN CYANAMID** Wayne, N.J.	4,825.0	5.1	292.0	85	(4.5)	4,971.2	90	2,321.4	70
107	●	**WICKES** Santa Monica, Calif.[23]	4,801.9[e]	–	(122.5)	463	–	3,573.3	124	1,107.8	146
108	106	**KELLOGG** Battle Creek, Mich.	4,666.2	7.3	470.2	53	(2.1)	3,390.4	134	1,634.4	106
109	105	**TELEDYNE** Los Angeles	4,664.2[e]	6.0	258.9	103	(33.9)	3,447.1	131	2,326.9	69
110	103	**MEAD** Dayton	4,646.6	4.1	215.8	124	(38.8)	3,750.0	115	1,680.8	102
111	57	**BEATRICE** Chicago[24]	4,498.0	(40.1)	325.0‡	78	(38.6)	3,786.0	113	816.0	183
112	112	**BOISE CASCADE** Boise, Idaho	4,338.0	5.9	267.6	94	(7.5)	4,142.6	106	1,575.3	109
113	113	**NAVISTAR INTERNATIONAL** Chicago[6]	4,296.0	5.3	87.0	224	(64.3)	3,609.0	121	914.0	166
114	120	**WARNER-LAMBERT** Morris Plains, N.J.	4,272.0	9.3	412.7	64	21.3	2,859.8	153	1,129.8	143
115	108	**EATON** Cleveland	4,249.0[e]	0.3	224.9	118	5.9	3,051.6	147	1,144.7	139
116	115	**ELI LILLY** Indianapolis	4,175.6	2.6	939.5	24	23.5	5,848.0	72	3,757.1	43
117	116	**INLAND STEEL INDUSTRIES** Chicago	4,146.7	1.9	119.7	189	(54.3)	3,008.5	149	1,495.1	110
118	119	**WHITMAN** Chicago	4,023.8	2.8	190.7	138	(18.3)	3,717.6	116	894.1	170
119	118	**DRESSER INDUSTRIES** Dallas[6]	4,022.9	2.1	170.0	153	8.4	3,056.1	146	1,608.2	108
120	117	**AMAX** New York	3,915.0	(0.7)	360.4	73	(51.4)	4,190.0	104	2,040.9	80
121	121	**COCA-COLA ENTERPRISES** Atlanta	3,888.5	0.4	71.7	247	(53.0)	4,731.9	97	1,680.1	103
122	127	**GREAT NORTHERN NEKOOSA** Norwalk, Conn.	3,863.1	7.7	321.1	79	(6.0)	4,115.4	107	1,803.5	93
123	130	**UNITED BRANDS** Cincinnati[25]	3,851.0	9.9	67.8	258	12.3	1,613.0	223	464.0	261
124	128	**GILLETTE** Boston	3,849.6	7.5	284.7	89	6.0	3,114.0	143	70.0	446
125	129	**OWENS-ILLINOIS** Toledo	3,692.0	3.4	(108.1)‡	461	–	5,098.3	89	(97.7)	474
126	144	**JOHNSON CONTROLS** Milwaukee[5]	3,689.6	19.0	97.5	212	(5.8)	2,415.0	174	977.9	159
127	123	**AMERICAN STANDARD** New York	3,631.4	(2.3)	(46.2)	449	–	3,541.9	126	72.9	444
128	●	**LEVI STRAUSS ASSOCIATES** San Francisco[26]	3,627.9	–	272.3	92	–	2,020.0	192	394.5	285
129	126	**GRUMMAN** Bethpage, N.Y.	3,558.8	(0.9)	67.3	259	(22.2)	2,591.1	162	817.8	182
130	134	**GANNETT** Arlington, Va.	3,523.2	6.3	397.5	68	9.1	3,782.8	114	1,995.8	82
131	138	**TIMES MIRROR** Los Angeles	3,517.5	7.9	298.0	83	(10.2)	3,947.5	110	1,877.2	90
132	135	**CUMMINS ENGINE** Columbus, Ind.	3,510.8	6.1	(6.1)	426	–	2,030.8	191	559.2	238
133	136	**FMC** Chicago	3,461.0	5.3	136.4‡	174	5.5	2,819.0	154	(70.6)	469
134	146	**INGERSOLL-RAND** Woodcliff Lake, N.J.	3,447.4	14.1	210.8	126	30.4	2,594.6	161	1,376.9	122
135	132	**AVON PRODUCTS** New York	3,395.9	0.9	54.6	280	–	2,098.0	185	228.3	358
136	143	**PACCAR** Bellevue, Wash.	3,372.9	8.4	241.9	113	37.6	3,067.1	145	1,007.3	155
137	150	**INTEL** Santa Clara, Calif.	3,280.7	14.1	391.0	69	(13.7)	3,994.0	109	2,548.8	62
138	133	**INTERCO** St. Louis[24]	3,277.8[e]	(1.9)	70.1	251	(51.6)	1,775.3	211	(1,005.8)	486
139	147	**SCHERING-PLOUGH** Madison, N.J.	3,243.0	9.2	471.3	52	20.9	3,613.5	120	1,955.4	85
140	124	**AGWAY** DeWitt, N.Y.[2,27]	3,234.8	(11.2)	N.A.		–	1,701.3	214	255.2	349
141	187	**BLACK & DECKER** Towson, Md.[5,28]	3,221.3	41.2	30.0	345	(69.1)	6,258.1	69	720.7	201
142	175	**MASCO** Taylor, Mich.	3,150.5	29.2	220.9	121	(23.4)	3,640.8	119	1,858.4	91
143	149	**R.R. DONNELLEY & SONS** Chicago	3,127.6	8.7	221.9	120	8.1	2,507.3	166	1,445.8	115
144	157	**KERR-MCGEE** Oklahoma City	3,122.0	13.8	156.0	160	41.8	3,332.0	137	1,476.0	114
145	154	**HERCULES** Wilmington, Del.	3,121.3	11.4	(81.3)	459	(167.5)	3,653.2	118	1,897.2	89
146	216	**MAYTAG** Newton, Iowa[29]	3,088.8	61.8	131.5	178	(17.1)	2,436.3	173	938.2	164
147	145	**WANG LABORATORIES** Lowell, Mass.[2]	3,078.4	0.3	(424.3)	473	(557.7)	2,725.7	156	1,130.8	142
148	164	**AMERICAN PETROFINA** Dallas[30]	3,057.6	16.1	119.1	191	(10.4)	2,505.3	167	1,060.7	152
149	151	**OWENS-CORNING FIBERGLAS** Toledo	3,021.0	6.7	172.0	150	(9.0)	1,924.0	197	(435.0)	483
150	191	**SEAGOLD VINEYARDS HOLDING** New York[23,31,32]	3,004.9·	36.7	514.5	48	23.0	7,589.2	58	4,213.6	35

The definitions, explanations, and footnotes underlying the figures in this directory are on page 367.

MARKET VALUE 3/9/90		PROFITS AS A PERCENT OF						EARNINGS PER SHARE				TOTAL RETURN TO INVESTORS				INDUSTRY TABLE NUMBER	RANK
		SALES		ASSETS		STOCKHOLDERS' EQUITY			% change from	1979-89 annual growth rate		1989		1979-89 annual average			
$ millions	Rank	%	Rank	%	Rank	%	Rank	1989/$	1988	%	Rank	%	Rank	%	Rank		1989
4,511.2	74	5.2	212	4.0	315	9.9§	314	2.51	13.6	3.2	223	53.0	61	14.3	215	7	101
4,974.8	67	6.4	170	8.8	125	26.9	52	4.22	14.7	8.4	145	46.2	85	22.6	89	8	102
3,625.4	83	5.5	200	7.9	161	24.9	63	3.97	(14.4)	11.1	105	39.1	120	22.1	97	23	103
3,309.6	92	7.4	125	6.5	211	18.2	159	5.11	(2.3)	11.2	104	24.7	187	22.3	94	9	104
N.A.		3.3	320	10.1	81	27.2	48	N.A.	–	–		N.A.		–		18	105
5,050.7	65	6.1	177	5.9	237	12.6	270	3.12	(8.5)	5.9	180	17.6	208	16.5	177	5	106
N.A.		(2.6)	443	(3.4)	447	(11.1)	422	N.A.	–	–		N.A.		–		24	107
7,314.0	40	10.1	66	13.9	28	28.8	45	3.85	(1.3)	13.7	71	7.9	257	27.2	49	8	108
3,788.9	84	5.6	198	7.5	179	11.1	293	4.66	(31.5)	4.7	205	4.5	274	18.2	149	7	109
1,970.3	143	4.6	240	5.8	240	12.8	264	3.33	(38.0)	2.1	233	(3.7)	309	16.2	183	9	110
N.A.		7.2	130	8.6	136	39.8	25	2.50‡	(36.7)	–		N.A.		–		8	111
1,418.2	183	6.2	174	6.5	218	17.0	184	6.19	(2.4)	4.7	206	11.5	240	12.9	235	9	112
1,101.5	213	2.0	363	2.4	371	9.5	321	0.23	(72.6)	(32.7)	333	(27.9)	390	(19.9)	354	17	113
7,070.8	42	9.7	73	14.4	23	36.5	30	6.10	22.0	14.7	63	51.5	65	24.4	67	19	114
2,002.5	142	5.3	207	7.4	189	19.6	132	6.00	5.4	4.3	211	5.7	267	16.9	171	17	115
17,530.6	19	22.5	4	16.1	19	25.0	61	3.20	20.1	11.0	109	64.0	39	20.7	115	19	116
1,110.5	211	2.9	336	4.0	314	8.0	345	3.15	(57.4)	(6.7)	291	(15.9)	356	3.8	317	15	117
2,697.0	112	4.7	237	5.1	262	21.3	98	1.50	(31.5)	(4.5)	282	(17.2)	361	23.2	83	8	118
3,253.7	94	4.2	263	5.6	247	10.6	304	2.52	11.0	(1.5)	266	56.3	48	8.7	284	11	119
2,095.5	132	9.2	83	8.6	134	17.7	172	4.19	(50.2)	(4.3)	279	4.0	275	(4.9)	346	15	120
1,809.4	154	1.8	372	1.5	396	4.3	381	0.41	(60.2)	–		7.0	264	–		3	121
N.A.		8.3	103	7.8	170	17.8	169	5.78	(6.9)	11.9	95	61.3	41	23.6	79	9	122
723.7	274	1.8	374	4.2	304	14.6	233	1.70	15.6	11.5	102	7.5	260	18.5	145	8	123
4,927.2	68	7.4	126	9.1	114	373.1§	2	2.70	10.2	11.4	103	51.0	70	28.3	40	14	124
N.A.		(2.9)	449	(2.1)	437	–		N.A.	–	–		N.A.		–		4	125
1,176.7	205	2.6	346	4.0	313	10.0	313	2.55	(9.9)	3.6	218	(9.1)	332	11.8	253	10	126
N.A.		(1.3)	434	(1.3)	433	(63.3)	439	N.A.	–	–		N.A.		–		4	127
N.A.		7.5	122	13.5	33	64.9§	9	N.A.	–	–		N.A.		–		2	128
477.8	307	1.9	368	2.6	363	7.7§	352	1.91	(23.6)	6.4	174	(18.1)	366	7.9	290	1	129
6,378.5	47	11.3	46	10.5	74	19.9	123	2.47	9.3	10.5	118	25.4	180	18.8	139	20	130
4,746.1	72	8.5	94	7.5	177	15.9	204	2.30	(10.9)	7.9	153	11.6	238	18.1	150	20	131
474.4	311	(0.2)	425	(0.3)	425	(1.1)	408	(1.52)	–	–		(18.1)	365	9.3	281	11	132
1,253.6	198	3.9	285	4.8	271	–		3.79‡	5.3	(1.8)	268	10.2	246	24.9	64	5	133
2,827.0	108	6.1	176	8.1	152	15.3	218	3.95	31.7	2.8	225	50.7	73	14.5	213	11	134
1,936.9	145	1.6	383	2.6	362	23.9	77	0.34	–	(22.2)	326	95.3	9	6.8	298	23	135
1,526.4	176	7.2	134	7.9	164	24.0	76	6.90	40.8	7.6	156	10.4	244	17.5	156	17	136
7,645.5	38	11.9	33	9.8	88	15.3	216	2.07	(17.5)	13.2	82	45.3	91	11.9	251	7	137
19.4	417	2.1	358	4.0	316	–		1.53	(56.3)	(7.1)	294	(84.5)	416	(0.5)	333	10	138
9,037.1	32	14.5	23	13.0	38	24.1	74	4.18	20.1	7.3	162	54.5	56	23.3	81	19	139
N.A.		–		–		–		N.A.	–	–		N.A.		–		8	140
1,054.2	217	0.9	401	0.5	413	4.2	382	0.51	(69.1)	(13.8)	312	(14.0)	349	1.3	329	11	141
3,948.9	81	7.0	143	6.1	230	11.9	280	1.42	(32.4)	7.3	163	(0.7)	297	16.7	173	14	142
3,448.9	88	7.1	138	8.8	124	15.3	215	2.85	8.0	12.8	86	51.1	69	25.2	63	20	143
2,521.5	120	5.0	219	4.7	282	10.6	305	3.20	41.0	0.4	250	37.8	125	7.5	293	18	144
1,605.9	169	(2.6)	444	(2.2)	439	(4.3)	416	(1.76)	(169.0)	–		(8.0)	325	11.6	255	5	145
1,848.4	149	4.3	261	5.4	253	3.4§	389	1.27	(38.6)	4.1	214	5.2	271	18.8	138	7	146
1,008.3	224	(13.8)	471	(15.6)	472	(37.5)	433	(2.59)	(562.5)	–		(40.5)	401	(3.7)	344	6	147
1,198.2	203	3.9	286	4.8	279	11.2	292	7.81	(22.4)	0.1	254	12.8	230	11.5	257	18	148
963.5	233	5.7	195	8.9	120	–		4.08	(9.5)	1.3	242	12.9	229	22.9	85	4	149
N.A.		17.1	13	6.8	204	12.2	275	N.A.	–	–		N.A.		–		3	150

THE FORTUNE 500

LARGEST U.S. INDUSTRIAL CORPORATIONS

151-200

RANK 1989	1988		SALES $ millions	% change from 1988	PROFITS $ millions	Rank	% change from 1988	ASSETS $ millions	Rank	STOCKHOLDERS' EQUITY $ millions	Rank
151	153	**FARMLAND INDUSTRIES** Kansas City, Mo.[27,33]	2,976.9	6.1	N.A.		–	1,182.4	265	458.5	262
152	162	**PITNEY BOWES** Stamford, Conn.	2,959.3	11.0	252.8**	106	3.9	5,611.1	79	1,428.3	118
153	125	**CONTROL DATA** Bloomington, Minn.	2,952.1	(18.6)	(680.4)	475	(40,123.5)	1,860.7	203	411.5	277
154	288	**JEFFERSON SMURFIT** St. Louis[34]	2,936.3	133.9	35.8‡	323	(75.2)	2,436.7	172	(921.6)	485
155	177	**UNIVERSAL** Richmond[2]	2,920.3	21.0	54.0	283	(11.0)	1,062.1	285	386.4	291
156	156	**UPJOHN** Kalamazoo, Mich.	2,916.3	6.2	176.0**	144	(50.2)	3,246.9	138	1,736.1	99
157	202	**COMPAQ COMPUTER** Houston	2,876.1	39.2	333.3	76	30.6	2,090.4	186	1,171.6	137
158	160	**ARMSTRONG WORLD INDUSTRIES** Lancaster, Pa.	2,864.0	6.9	187.6	140	15.3	2,033.0	189	976.5	160
159	137	**BRUNSWICK** Skokie, Ill.	2,826.1	(13.9)	(71.3)	456	(136.9)	1,984.8	194	776.1	190
160	161	**AMP** Harrisburg, Pa.	2,820.5	5.7	280.9	90	(12.0)	2,529.8	165	1,625.4	107
161	163	**UNION CAMP** Wayne, N.J.	2,761.3	3.8	299.4	82	1.4	3,417.3	133	1,755.3	97
162	158	**ETHYL** Richmond	2,754.9¶	1.4	231.3	115	0.1	5,631.7	77	901.3	168
163	201	**PENNZOIL** Houston	2,750.0¶	31.7	103.5	206	(93.0)	4,882.0	92	1,282.0	128
164	172	**REVLON GROUP** New York[35]	2,739.1	10.6	N.A.		–	N.A.		N.A.	
165	182	**PHELPS DODGE** Phoenix	2,726.4	17.5	267.0	95	(36.5)	2,504.6	168	1,350.1	125
166	176	**AIR PRODUCTS & CHEMICALS** Allentown, Pa.[5]	2,662.3	9.5	222.1	119	3.9	3,365.7	135	1,444.9	116
167	168	**ROHM & HAAS** Philadelphia	2,661.0	5.0	176.0	146	(23.5)	2,455.0	170	1,311.0	127
168	139	**QUANTUM CHEMICAL** New York	2,636.5	(18.5)	247.4	109	(35.4)	3,003.8	150	(172.3)	477
169	159	**ZENITH ELECTRONICS** Glenview, Ill.	2,610.7¶	(2.8)	(68.4)	455	(684.6)	918.3	320	398.2	284
170	178	**PREMARK INTERNATIONAL** Deerfield, Ill.	2,600.6	8.5	78.4	242	(25.5)	1,757.2	212	800.6	188
171	165	**NATIONAL STEEL** Pittsburgh[36]	2,576.6	(0.9)	83.2**	232	(5.7)	1,806.6	207	733.0	199
172	195	**WEST POINT-PEPPERELL** West Point, Ga.[5]	2,567.7¶	19.4	(19.3)‡	434	(122.9)	3,505.0	129	1,643.0	105
173	170	**VF** Wyomissing, Pa.	2,540.0	0.9	176.0	145	1.4	1,889.8	200	819.8	181
174	212	**TYSON FOODS** Springdale, Ark.[5]	2,538.2	31.1	100.6	209	23.5	2,586.1	163	447.7	266
175	185	**OLIN** Stamford, Conn.	2,530.0	9.6	124.0	185	26.5	1,904.0	199	[illegible]	209
176	169	**B.F. GOODRICH** Akron	2,520.7	0.0	172.4	149	(11.9)	2,274.4	176	1,27[illegible].2	129
177	189	**PARKER HANNIFIN** Cleveland[7]	2,520.2	11.9	124.5	183	16.8	1,922.5	198	840.5	177
178	140	**ARMCO** Parsippany, N.J.	2,494.4	(22.7)	165.0	155	13.5	2,489.1	169	1,026.8	153
179	205	**BERKSHIRE HATHAWAY** Omaha	2,483.9	24.7	447.5	56	12.1	9,459.6	41	4,925.1	29
180	203	**HARRIS** Melbourne, Fla.[2]	2,476.7¶	20.1	21.3	374	(78.8)	2,557.8	164	947.2	162
181	198	**CORNING** Corning, N.Y.[37]	2,468.8	16.4	261.0	100	23.9	3,360.7	136	1,711.2	101
182	181	**TRIBUNE** Chicago	2,454.8	5.1	242.4	112	15.2	3,051.4	148	1,078.0	147
183	179	**LAND O'LAKES** Arden Hills, Minn.[27]	2,442.2¶	3.7	N.A.		–	721.2	358	267.9	343
184	485	**MAXXAM** Los Angeles	2,423.3	366.7	116.8	195	568.5	3,183.2	141	233.1	356
185	167	**HERSHEY FOODS** Hershey, Pa.	2,421.0	(5.5)	171.1	151	(20.0)	1,814.1	206	1,117.0	145
186	180	**ENGELHARD** Edison, N.J.	2,403.0	2.2	(77.5)	457	(221.6)	1,339.6	250	636.9	217
187	173	**NATIONAL SEMICONDUCTOR** Santa Clara, Calif.[8]	2,400.0¶	(2.8)	(23.2)	440	(137.0)	1,416.1	243	848.5	176
188	188	**VALHI** Dallas	2,381.2	5.7	103.3	207	20.3	3,098.1	144	287.4	331
189	192	**KNIGHT-RIDDER** Miami	2,342.6	6.8	247.2	110	58.1	2,134.6	182	917.1	165
190	186	**GEO. A. HORMEL** Austin, Minn.[6]	2,340.5	2.1	70.1	252	16.5	727.4	356	470.9	260
191	184	**BAKER HUGHES** Houston[5]	2,328.0	0.5	85.0	231	(17.7)	2,065.9	188	1,003.4	156
192	193	**CENTRAL SOYA** Fort Wayne	2,318.5	5.9	15.1	394	32.9	789.4	342	391.8	287
193	197	**WESTVACO** New York[6]	2,296.8	7.2	233.1	114	16.3	2,960.9	151	1,488.4	111
194	183	**MORTON THIOKOL** Chicago[2,35,38]	2,269.0	(2.0)	N.A.		–	N.A.		N.A.	
195	•	**UNIROYAL GOODRICH TIRE** Akron	2,266.9	3.5	N.A.		–	1,798.7	208	188.4	385
196	207	**ASARCO** Trenton	2,248.6	13.1	231.2	116	11.5	2,440.8	171	1,438.0	117
197	190	**MANVILLE** Denver	2,228.1	0.9	196.8	134	–	2,600.0	160	1,000.0	157
198	152	**USG** Chicago	2,201.0	(21.7)	28.0	354	(77.7)	1,602.0	225	(1,438.0)	488
199	174	**BURLINGTON HOLDINGS** New York[5]	2,197.7	(10.4)	(23.0)	439	–	2,115.1	184	(16.4)	462
200	213	**ILLINOIS TOOL WORKS** Chicago	2,172.7	12.6	163.8	157	17.0	1,688.0	215	871.1	175

The definitions, explanations, and footnotes underlying the figures in this directory are on page 367.

MARKET VALUE 3/9/90		PROFITS AS A PERCENT OF SALES		ASSETS		STOCKHOLDERS' EQUITY		EARNINGS PER SHARE				TOTAL RETURN TO INVESTORS 1989		1979-89 annual average		INDUSTRY TABLE NUMBER	RANK
$ millions	Rank	%	Rank	%	Rank	%	Rank	1989/$	% change from 1988	1979-89 annual growth rate %	Rank	%	Rank	%	Rank		1989
N.A.		–		–		–		N.A.	–	–		N.A.		–		8	151
3,624.4	86	8.5	92	4.5	294	17.7	170	3.19**	3.6	12.2	90	13.6	225	23.5	80	6	152
823.0	254	(23.0)	474	(36.6)	474	(165.3)	444	(16.11)	(53,800.0)	–		(7.6)	323	(3.0)	340	6	153
N.A.		1.2	393	1.5	398	–	–	N.A.	–	–		N.A.		–		9	154
535.3	292	1.9	371	5.1	265	14.0	242	3.19	(10.4)	8.6	144	11.9	237	19.8	122	25	155
6,621.4	44	6.0	178	5.4	252	10.1	311	0.95**	(50.0)	1.3	243	37.6	126	20.9	111	19	156
3,750.6	85	11.6	39	15.9	20	28.4	47	7.77	23.3	–		33.3	144	–		6	157
1,441.2	181	6.6	160	9.2	112	19.2	140	3.92	11.7	11.8	98	9.2	249	21.4	105	24	158
1,242.4	199	(2.5)	442	(3.6)	451	(9.2)	420	(0.81)	(136.8)	–		(14.1)	351	27.8	43	27	159
5,191.2	63	10.0	69	11.1	65	17.3	177	2.63	(11.1)	8.9	138	2.8	283	15.2	202	7	160
2,419.2	121	10.8	53	8.8	130	17.1	183	4.35	2.4	7.7	154	11.5	239	15.0	206	9	161
3,087.9	99	8.4	98	4.1	308	25.7§	59	1.93	1.0	12.1	93	37.0	128	27.6	44	5	162
2,988.4	102	3.8	290	2.1	379	6.9§	360	2.42	(93.6)	(6.4)	289	28.0	166	14.6	212	18	163
N.A.		–		–		–		N.A.	–	–		N.A.		–		23	164
2,077.9	133	9.8	71	10.7	72	19.8	127	7.59	(42.3)	4.1	213	32.2	148	9.9	276	15	165
2,775.2	110	8.3	99	6.6	209	15.4	214	4.04	3.6	8.9	139	19.7	201	12.8	237	5	166
2,051.2	138	6.6	157	7.2	193	13.4	251	2.65	(23.4)	7.2	166	4.6	273	19.8	123	5	167
497.4	303	9.4	79	8.2	143	–		9.85	(31.7)	9.4	127	(43.7)	406	14.2	218	5	168
243.9	364	(2.6)	445	(7.4)	466	(17.2)	428	(2.56)	(668.9)	–		(32.9)	396	3.7	319	7	169
915.0	242	3.0	330	4.5	296	9.8	316	2.24	(26.1)	–		(0.4)	296	–		21	170
N.A.		3.2	322	4.6	288	11.4	290	N.A.	–	–		N.A.		–		15	171
N.A.		(0.8)	426	(0.6)	426	(1.2)	409	N.A.	–	–		N.A.		–		24	172
1,826.6	151	6.9	146	9.3	111	21.5	95	2.72	6.7	18.8	27	13.9	223	32.9	18	2	173
1,821.4	152	4.0	283	3.9	319	22.5	88	1.55	39.6	25.9	7	44.5	99	43.4	5	8	174
1,123.3	208	4.9	229	6.5	214	18.6	147	6.02	30.0	7.3	164	21.6	196	17.8	153	5	175
1,026.6	222	6.8	150	7.6	174	13.4§	250	6.48	(12.7)	2.9	224	(16.6)	359	13.2	230	5	176
1,399.0	184	4.9	223	6.5	217	14.8	230	2.55	15.9	4.3	210	(7.5)	322	11.1	263	11	177
895.5	246	6.6	156	6.6	208	16.1	197	1.78	13.4	(9.5)	300	10.2	245	(5.8)	348	15	178
8,483.7	35	18.0	9	4.7	280	9.1	330	390.01	12.0	25.1	9	84.6	16	39.1	8	20	179
1,256.0	197	0.9	403	0.8	405	2.3	393	0.55	(78.0)	(13.9)	314	26.2	176	2.8	324	7	180
4,111.7	77	10.6	55	7.8	171	15.3	220	2.80	19.7	4.7	203	27.4	169	15.4	199	4	181
2,951.8	103	9.9	70	7.9	159	22.5	87	3.17	14.0	–		24.2	189	–		20	182
N.A.		–		–		–		N.A.	–	–		N.A.		–		8	183
321.0	348	4.8	232	3.7	325	50.1	16	12.97	565.1	14.6	64	92.8	10	15.6	193	15	184
2,840.9	106	7.1	139	9.4	106	15.3	217	1.90	(19.8)	11.7	99	41.3	112	28.8	36	8	185
827.8	252	(3.2)	451	(5.8)	462	(12.2)	423	(1.72)	(221.1)	–		14.6	222	–		5	186
756.3	264	(1.0)	432	(1.6)	435	(2.7)	411	(0.32)	(166.7)	–		(25.6)	385	(0.6)	334	7	187
1,895.6	147	4.3	258	3.3	341	36.0	31	0.91	21.3	17.6	37	51.4	66	14.5	214	5	188
2,858.6	105	10.6	56	11.6	56	27.0	50	4.71	70.7	13.4	77	31.9	150	19.0	133	20	189
1,325.7	191	3.0	332	9.6	100	14.9	227	1.83	16.6	8.7	143	56.1	50	26.9	50	8	190
3,231.4	96	3.7	296	4.1	307	8.5	335	0.66	(19.5)	(8.6)	299	86.7	14	3.0	321	11	191
N.A.		0.7	408	1.9	387	3.9	384	N.A.	–	–		N.A.		–		8	192
1,819.7	153	10.2	63	7.9	165	15.7	208	3.45	11.3	9.7	124	7.7	259	17.1	165	9	193
N.A.		–		–		–		N.A.	–	–		N.A.		–		5	194
N.A.		–		–		–		N.A.	–	–		N.A.		–		21	195
1,227.3	201	10.3	62	9.5	105	16.1	196	5.50	11.8	(4.3)	280	14.7	219	(0.2)	332	16	196
412.3	326	8.8	86	7.6	176	19.7	130	1.48	–	(26.7)	328	28.1	165	(24.4)	356	4	197
231.3	367	1.3	392	1.7	390	–		0.51	(78.6)	(12.3)	307	(20.0)	372	19.3	128	4	198
N.A.		(1.0)	433	(1.1)	429	–		(1.73)	–	–		N.A.		–		24	199
2,634.9	115	7.5	121	9.7	93	18.8	143	3.06	15.0	13.8	70	30.9	158	24.7	66	14	200

THE FORTUNE 500 LARGEST U.S. INDUSTRIAL CORPORATIONS

RANK			SALES		PROFITS			ASSETS		STOCKHOLDERS' EQUITY	
1989	1988		$ millions	% change from 1988	$ millions	Rank	% change from 1988	$ millions	Rank	$ millions	Rank
201	226	**AMDAHL** Sunnyvale, Calif.	2,153.7	19.5	153.0	162	(31.5)	2,233.7	179	1,176.0	136
202	208	**DOVER** New York	2,136.2	9.3	144.0	168	(1.2)	1,406.4	244	746.8	195
203	209	**SHERWIN-WILLIAMS** Cleveland	2,130.3	9.2	108.9	200	7.8	1,375.0	247	667.6	208
204	200	**TEMPLE-INLAND** Diboll, Texas	2,124.0	1.2	207.4	128	4.1	7,248.8	60	1,258.9	132
205	206	**MCDERMOTT** New Orleans[39,40]	2,121.4	6.5	7.8	408	(64.7)	2,687.9	158	688.0	205
206	224	**DIAMOND SHAMROCK** San Antonio[41]	2,090.9	15.9	28.1‡	353	(47.5)	1,026.7	294	270.6	339
207	210	**SEQUA** New York	2,072.8	6.4	55.9	278	(18.6)	1,961.3	196	700.5	203
208	217	**LOUISIANA-PACIFIC** Portland, Ore.	2,035.0	6.9	192.6	135	(35.7)	2,031.7	190	1,176.5	135
209	225	**MAPCO** Tulsa	2,018.7	12.0	116.2	197	(0.8)	1,480.6	236	407.6	278
210	211	**FREEPORT-MCMORAN** New Orleans	2,014.8	3.6	130.7	180	(57.9)	3,560.9	125	391.0	289
211	204	**GENCORP** Fairlawn, Ohio[26]	2,001.0	(2.3)	210.0	127	200.0	1,270.0	257	155.0	405
212	215	**STANLEY WORKS** New Britain, Conn.	1,980.8	3.8	117.7	193	13.7	1,491.2	234	674.1	207
213	239	**TYCO LABORATORIES** Exeter, N.H.[8]	1,971.1	23.0	91.3	219	37.3	1,399.4	245	490.9	254
214	243	**HOLLY FARMS** Memphis[8,42]	1,963.7	24.0	43.7	305	20.6	823.4	335	426.3	273
215	199	**MACK TRUCKS** Allentown, Pa.	1,958.0	(6.9)	(185.4)	466	(683.3)	1,616.2	222	340.6	304
216	232	**CABOT** Waltham, Mass.[5]	1,943.7	15.9	18.1	387	(70.1)	1,417.4	242	489.2	256
217	214	**TRINOVA** Maumee, Ohio	1,942.3	1.2	32.3	337	(63.2)	1,361.5	249	651.3	213
218	218	**POLAROID** Cambridge, Mass.	1,941.9	4.2	145.0	165	–	1,776.7	210	148.8	408
219	227	**GENERAL SIGNAL** Stamford, Conn.	1,925.2	9.4	78.5	241	211.3	1,324.3	251	506.1	250
220	220	**BECTON DICKINSON** Franklin Lakes, N.J.[5]	1,921.1	4.0	213.6	125	31.9	2,270.1	177	1,071.5	148
221	221	**CROWN CORK & SEAL** Philadelphia	1,909.8	4.1	94.2	215	0.8	1,655.1	220	810.6	185
222	222	**SPRINGS INDUSTRIES** Fort Mill, S.C.	1,909.3	4.6	64.8	264	22.7	1,188.4	264	585.1	229
223	229	**WILLAMETTE INDUSTRIES** Portland, Ore.	1,891.8	10.2	191.1	137	18.6	1,604.3	224	901.0	169
224	231	**INTERNATIONAL MULTIFOODS** Minneapolis[24]	1,883.5	10.9	35.1	325	6.3	716.0	362	297.0	329
225	•	**READER'S DIGEST ASS'N** Pleasantville, N.Y.[2]	1,870.8	9.3	151.5	164	6.5	1,173.7	266	449.2	265
226	248	**PENN CENTRAL** Cincinnati	1,833.3	18.5	174.1	147	68.4	3,178.2	142	1,826.8	92
227	228	**NEW YORK TIMES** New York	1,807.1	3.0	266.6	97	59.0	2,187.5	181	1,067.1	149
228	235	**MID-AMERICA DAIRYMEN** Springfield, Mo.[27]	1,797.7	8.6	N.A.		–	425.7	443	141.5	410
229	275	**CYPRUS MINERALS** Englewood, Colo.	1,790.1	34.9	250.1	108	47.1	1,841.4	204	1,379.5	121
230	223	**MCGRAW-HILL** New York	1,789.0	(1.6)	47.8**	291	(74.2)	2,208.2	180	880.2	172
231	249	**ADOLPH COORS** Golden, Colo.	1,770.0*	16.3	13.1	397	(72.0)	1,530.8	232	1,060.9	151
232	327	**SUN MICROSYSTEMS** Mountain View, Calif.[2]	1,769.2	68.2	60.8	270	(8.4)	1,269.1	258	661.8	212
233	244	**AVERY INTERNATIONAL** Pasadena, Calif.[26]	1,732.4	9.5	86.5	226	11.3	1,142.1	271	538.6	242
234	233	**SQUARE D** Palatine, Ill.	1,722.8	4.0	101.9	208	(14.3)	1,381.9	246	556.1	239
235	238	**DOW JONES** New York	1,714.9	7.0	317.0	80	38.9	2,688.3	157	1,405.2	120
236	171	**HILLSBOROUGH HOLDINGS** Tampa[8]	1,706.5¶	(31.9)	(186.3)	467	–	3,461.8	130	(196.0)	478
237	•	**HARCOURT BRACE JOVANOVICH** Orlando, Fla.	1,702.5¶	(4.5)	72.1‡	245	–	2,644.4	159	(1,377.0)	487
238	148	**HENLEY GROUP** Hampton, N.H.	1,693.0	(41.7)	(187.0)	468	–	3,427.0	132	1,165.0	138
239	236	**MASCO INDUSTRIES** Taylor, Mich.	1,686.6	2.1	56.6**	276	(31.1)	2,235.9	178	389.4	290
240	247	**DEAN FOODS** Franklin Park, Ill.[8]	1,686.0	8.6	60.4	271	41.3	586.7	389	293.2	330
241	253	**MURPHY OIL** El Dorado, Ark.	1,683.7	14.3	46.6	296	20.1	2,074.8	187	769.6	191
242	237	**OUTBOARD MARINE** Waukegan, Ill.[5]	1,678.0	4.5	70.3	250	(9.4)	1,254.4	260	642.7	215
243	251	**SUNDSTRAND** Rockford, Ill.	1,666.1	12.8	114.2	199	–	1,502.9	233	573.0	231
244	240	**SONOCO PRODUCTS** Hartsville, S.C.	1,655.8	3.5	103.6	205	7.6	995.1	304	511.6	249
245	265	**EG&G** Wellesley, Mass.	1,655.1	17.7	69.8	253	1.7	643.4	376	349.0	300
246	278	**TANDEM COMPUTERS** Cupertino, Calif.[5]	1,643.9	25.0	118.3	192	25.2	1,618.8	221	989.1	158
247	•	**GREAT AMER. MGMT. & INV.** Chicago[18,43]	1,643.1	34.3	2.2	415	(75.0)	1,552.3	229	193.8	382
248	257	**E-SYSTEMS** Dallas	1,632.9	13.5	83.0	233	11.3	852.1	329	561.1	237
249	266	**FLEETWOOD ENTERPRISES** Riverside, Calif.[17]	1,632.0	16.1	70.5	249	46.1	717.9	361	400.6	283
250	234	**COLT INDUSTRIES** New York	1,618.0	(2.3)	119.2	190	30.9	934.7	317	(722.8)	484

The definitions, explanations, and footnotes underlying the figures in this directory are on page 367.

MARKET VALUE 3/9/90		PROFITS AS A PERCENT OF						EARNINGS PER SHARE				TOTAL RETURN TO INVESTORS				INDUSTRY TABLE NUMBER	RANK
		SALES		ASSETS		STOCKHOLDERS' EQUITY			% change from 1988	1979-89 annual growth rate		1989		1979-89 annual average			
$ millions	Rank	%	Rank	%	Rank	%	Rank	1989/$		%	Rank	%	Rank	%	Rank		1989
1,687.5	164	7.1	137	6.8	201	13.0	259	1.39	(33.2)	18.5	29	(28.6)	392	9.6	278	6	201
2,279.7	125	6.7	152	10.2	77	19.3	139	2.28	2.7	11.0	106	27.4	170	18.9	136	11	202
1,446.0	180	5.1	215	7.9	160	16.3	193	2.52	9.6	20.2	22	38.6	122	29.8	29	5	203
1,751.8	157	9.8	72	2.9	350	16.5	191	3.75	4.9	–		48.9	77	–		9	204
N.A.		0.4	413	0.3	417	1.1	400	N.A.	–	–		N.A.		–		14	205
560.0	291	1.3	389	2.7	356	8.2§	339	2.20‡	2.8	–		67.1	31	–		18	206
646.8	283	2.7	342	2.8	351	8.0	346	5.10	(15.6)	3.5	220	28.2	164	13.5	226	1	207
1,653.1	166	9.5	78	9.5	104	16.4	192	5.04	(35.7)	5.4	188	57.3	46	13.3	229	9	208
1,489.8	179	5.8	191	7.8	168	28.5	46	3.04	3.4	4.7	204	49.9	75	12.1	248	18	209
1,781.3	155	6.5	165	3.7	324	33.4	33	2.17	(47.5)	1.9	237	25.9	177	9.4	280	16	210
380.8	331	10.5	59	16.5	18	135.5	4	6.61	201.8	20.8	20	(25.6)	384	11.6	254	1	211
1,556.2	173	5.9	181	7.9	162	17.5	175	2.71	12.9	6.7	171	40.9	114	14.7	210	14	212
2,025.2	141	4.6	242	6.5	213	18.6	150	2.31	19.7	12.5	87	41.9	108	33.5	16	15	213
N.A.		2.2	353	5.3	254	10.3	308	2.40	16.5	1.7	240	N.A.		–		8	214
200.7	382	(9.5)	467	(11.5)	469	(54.4)	437	(6.24)	(683.2)	–		(53.5)	412	–		17	215
824.8	253	0.9	402	1.3	400	3.7	388	0.55	(75.4)	(13.2)	310	(1.7)	301	12.6	240	5	216
898.5	245	1.7	381	2.4	373	5.0	374	0.95	(62.6)	(5.1)	283	(8.7)	329	15.5	196	11	217
2,684.1	113	7.5	123	8.2	150	97.4	6	1.96	–	13.6	75	25.9	178	15.9	190	22	218
1,024.1	223	4.1	276	5.9	235	15.5	211	4.12	352.7	1.6	241	5.2	270	6.4	304	7	219
2,306.2	123	11.1	49	9.4	108	19.9	121	5.40	34.7	13.6	72	21.2	197	16.3	181	22	220
1,495.6	178	4.9	225	5.7	243	11.6	286	3.58	6.2	8.7	142	14.9	217	18.5	146	14	221
643.4	285	3.4	312	5.5	251	11.1	296	3.64	22.1	6.2	176	25.4	181	20.1	119	24	222
1,372.8	187	10.1	65	11.9	52	21.2	100	7.52	18.6	10.9	110	28.5	163	17.2	162	9	223
365.3	336	1.9	370	4.9	269	11.8	282	2.49	10.2	4.9	198	8.7	252	15.2	201	8	224
2,708.9	111	8.1	106	12.9	40	33.7	32	N.A.	–	–		N.A.		–		20	225
1,738.9	161	9.5	76	5.5	250	9.5	320	2.48	69.9	11.9	94	15.2	215	15.1	204	15	226
1,864.0	148	14.8	22	12.2	47	25.0	62	3.39	63.0	20.9	19	0.3	293	23.6	78	20	227
N.A.		–		–		–		N.A.	–	–		N.A.		–		8	228
1,030.8	220	14.0	27	13.6	32	18.1	161	6.06	44.1	–		25.3	182	–		15	229
2,604.4	116	2.7	345	2.2	377	5.4	371	0.98**	(74.4)	(4.5)	281	(6.1)	316	18.5	144	20	230
668.8	279	0.7	406	0.9	404	1.2	397	0.36	(71.9)	(15.5)	319	1.3	291	6.5	303	3	231
2,047.4	140	3.4	310	4.8	277	9.2	326	0.76	(15.1)	–		3.8	277	–		6	232
1,227.4	200	5.0	220	7.6	175	16.1	198	1.96	10.7	12.8	85	45.2	92	24.7	65	9	233
1,328.6	190	5.9	183	7.4	188	18.3	158	3.98	(10.4)	2.7	226	15.4	213	14.2	217	7	234
2,836.1	107	18.5	8	11.8	53	22.6	86	3.15	34.0	19.1	26	15.0	216	19.7	124	20	235
N.A.		(10.9)	469	(5.4)	460	–		N.A.	–	–		N.A.		–		15	236
200.5	383	4.2	262	2.7	358	–		0.17‡	–	(15.4)	317	(49.3)	410	20.8	112	20	237
764.2	261	(11.0)	470	(5.5)	461	(16.1)	425	(9.44)	–	–		N.A.		–		1	238
475.1	310	3.4	315	2.5	364	14.5	234	0.70**	(24.7)	–		(28.2)	391	–		17	239
863.8	249	3.6	299	10.3	76	20.6	110	2.28	42.5	16.8	46	13.5	226	32.6	19	8	240
1,567.3	171	2.8	340	2.2	375	6.0	368	1.37	20.2	(6.8)	293	43.3	102	7.2	296	18	241
476.0	309	4.2	267	5.6	244	10.9	298	3.64	(9.9)	13.8	69	(14.0)	348	16.0	188	27	242
1,280.9	194	6.9	148	7.6	173	19.9	122	6.17	–	4.4	209	33.4	143	9.4	279	1	243
1,497.6	177	6.3	173	10.4	75	20.2	117	2.36	7.3	14.8	62	10.5	243	28.4	39	9	244
1,101.0	214	4.2	265	10.9	70	20.0	120	2.40	4.3	11.8	96	20.7	200	12.5	245	22	245
2,882.8	104	7.2	132	7.3	192	12.0	279	1.17	21.9	28.1	5	36.3	131	20.6	116	6	246
266.7	359	0.1	419	0.1	420	1.1	401	0.06	(92.7)	(28.2)	330	31.5	153	22.1	95	5	247
1,005.0	226	5.1	216	9.7	90	14.8	231	2.65	10.4	13.0	83	7.3	262	16.3	180	7	248
515.9	299	4.3	260	9.8	86	17.6	173	3.06	47.1	11.8	97	(1.9)	304	21.3	107	17	249
N.A.		7.4	127	12.7	43	–		N.A.	–	–		N.A.		–		17	250

THE FORTUNE 500 LARGEST U.S. INDUSTRIAL CORPORATIONS

251-300

RANK 1989	1988		SALES $ millions	SALES % change from 1988	PROFITS $ millions	PROFITS Rank	PROFITS % change from 1988	ASSETS $ millions	ASSETS Rank	STOCKHOLDERS' EQUITY $ millions	STOCKHOLDERS' EQUITY Rank
251	271	**ARVIN INDUSTRIES** Columbus, Ind.	1,616.5	18.4	18.4	385	419.0	1,129.8	276	358.3	298
252	242	**WITCO** New York	1,609.0	1.5	35.0	326	(61.9)	1,139.3	274	571.6	233
253	230	**HIMONT** Wilmington, Del.[35]	1,600.0	(6.5)	N.A.		–	N.A.		N.A.	
254	252	**DOW CORNING** Midland, Mich.	1,574.5	6.6	162.8	158	8.2	1,678.1	218	872.1	174
255	260	**NATIONAL SERVICE INDUSTRIES** Atlanta[33]	1,539.5	8.9	94.7	214	10.0	887.8	324	612.7	221
256	316	**TECUMSEH PRODUCTS** Tecumseh, Mich.	1,535.0	40.4	82.6	234	17.7	1,034.1	291	682.3	206
257	264	**NORTON** Worcester, Mass.	1,534.6	8.8	105.1**	202	9.9	1,161.3	269	608.0	224
258	245	**TIMKEN** Canton, Ohio	1,533.0	(1.4)	55.3	279	(16.0)	1,566.0	227	1,064.8	150
259	241	**PRIME COMPUTER** Natick, Mass.	1,517.9	(4.8)	(230.2)	470	(1,312.4)	N.A.		N.A.	
260	256	**LORAL** New York[39]	1,499.9¶	4.1	87.6	223	17.9	1,461.5	238	517.9	246
261	279	**LAFARGE** Reston, Va.[44]	1,497.2	14.4	100.0	210	7.0	1,543.5	230	802.5	186
262	298	**HARNISCHFEGER INDUSTRIES** Brookfield, Wis.[6]	1,482.8	24.9	70.6	248	389.5	1,369.9	248	513.9	247
263	277	**GENERAL INSTRUMENT** New York[24]	1,481.5¶	12.6	85.5	229	29.2	1,309.4	253	632.0	218
264	263	**LORILLARD** Mineola, N.Y.[45]	1,475.3*	4.6	398.8	67	8.3	970.4	307	412.5	275
265	286	**CLOROX** Oakland[2]	1,471.2	16.8	124.1	184	(6.4)	1,213.1	262	786.2	189
266	281	**ECHLIN** Branford, Conn.[33]	1,468.2	13.4	44.4	302	(28.4)	1,034.3	290	640.6	216
267	255	**CRANE** New York	1,455.6	0.3	55.9	277	(10.5)	653.8	373	283.8	333
268	262	**BOWATER** Darien, Conn.	1,450.0	2.8	144.6	166	(12.0)	2,284.2	175	907.1	167
269	269	**WASHINGTON POST** Washington, D.C.	1,444.1	5.6	197.9	132	(26.5)	1,532.2	231	941.5	163
270	309	**TOSCO** Santa Monica, Calif.	1,440.5	26.1	40.5	312	(55.3)	937.9	316	269.6	341
271	261	**TEKTRONIX** Beaverton, Ore.[8]	1,438.5	1.9	18.9	382	–	1,023.0	295	497.3	252
272	267	**ESSELTE BUSINESS SYSTEMS** Garden City, N.Y.[46]	1,433.1	2.3	54.5	281	(7.6)	1,142.0	272	502.1	251
273	283	**CLARK EQUIPMENT** South Bend, Ind.	1,422.0	11.2	68.9	254	49.5	1,012.1	298	491.6	253
274	270	**INSPIRATION RESOURCES** New York	1,419.6	3.9	25.2	366	(40.0)	915.1	322	439.1	269
275	246	**RELIANCE ELECTRIC** Cleveland	1,411.0	(9.1)	49.0‡	290	104.2	1,140.0	273	11.0	459
276	299	**LIZ CLAIBORNE** New York	1,410.7	19.1	164.6	156	49.2	848.5	330	611.7	223
277	273	**HASBRO** Pawtucket, R.I.	1,409.7	5.2	92.2	218	27.3	1,246.5	261	802.3	187
278	290	**YORK HOLDINGS** York, Pa.	1,409.3	14.1	(2.3)**	424	–	1,046.8	287	(18.6)	463
279	308	**CROWN CENTRAL PETROLEUM** Baltimore	1,402.8	22.0	21.0	375	(45.3)	623.7	380	306.5	323
280	•	**AMOSKEAG** Boston[47]	1,402.0	1.9	7.0	410	96.0	939.0	313	144.1	409
281	285	**SEAGATE TECHNOLOGY** Scotts Valley, Calif.[2]	1,382.3	9.2	0.3	422	(99.5)	1,076.8	284	442.5	268
282	284	**CERTAINTEED** Valley Forge, Pa.[48]	1,364.9	7.8	30.4	342	(46.5)	1,125.6	277	746.7	196
283	292	**NATIONAL GYPSUM** Dallas[44]	1,364.1	11.7	(40.7)**	447	–	1,443.8	239	36.3	455
284	282	**HARSCO** Wormleysburg, Pa.	1,351.2	5.6	11.4	403	(63.5)	978.2	305	394.5	286
285	297	**RUBBERMAID** Wooster, Ohio	1,348.9	13.0	116.4	196	17.2	915.4	321	598.4	225
286	289	**CYCLOPS INDUSTRIES** Pittsburgh	1,346.8	7.7	36.2	322	26.6	523.5	411	72.4	445
287	305	**VARIAN ASSOCIATES** Palo Alto, Calif.[5]	1,344.8	14.9	31.5	338	13.5	931.3	318	427.3	272
288	268	**WEIRTON STEEL** Weirton, W.Va.	1,337.8	(3.3)	16.0‡	392	(78.6)	946.4	312	328.1	312
289	295	**FIGGIE INTERNATIONAL** Willoughby, Ohio	1,332.5	11.0	62.9	267	1.7	1,027.2	293	316.5	318
290	272	**DATA GENERAL** Westboro, Mass.[5]	1,324.3	(3.0)	(119.7)	462	–	1,040.2	288	522.1	245
291	259	**NORTEK** Providence	1,323.5¶	(7.2)	(12.5)**	430	(163.8)	836.8	332	218.0	363
292	333	**FRUIT OF THE LOOM** Chicago	1,320.9	31.5	72.0	246	6.5	1,878.1	202	326.5	313
293	296	**DELUXE** St. Paul	1,320.6	10.4	152.6	163	6.5	847.0	331	630.6	219
294	304	**HARTMARX** Chicago[26]	1,312.0	11.7	17.4	388	(54.2)	908.0	323	360.1	297
295	313	**FEDERAL PAPER BOARD** Montvale, N.J.	1,310.9	17.4	205.5	130	43.4	1,882.5	201	811.9	184
296	303	**AMERICAN GREETINGS** Cleveland[24]	1,275.4	8.6	44.3	303	32.6	1,087.6	282	565.0	236
297	323	**NUCOR** Charlotte, N.C.	1,269.0	19.6	57.8	274	(47.2)	1,033.8	292	584.4	230
298	293	**E.W. SCRIPPS** Wilmington, Del.	1,266.4	4.3	89.3	221	27.5	1,564.7	228	643.9	214
299	300	**MCCORMICK** Hunt Valley, Md.[26]	1,263.1	6.7	135.5	175	217.6	864.5	327	346.2	301
300	•	**DURACELL HOLDINGS** Bethel, Conn.[2]	1,253.7	–	(105.9)	460	–	2,133.6	183	231.1	357

The definitions, explanations, and footnotes underlying the figures in this directory are on page 367.

MARKET VALUE 3/9/90 $ millions	Rank	PROFITS AS A PERCENT OF SALES %	Rank	ASSETS %	Rank	STOCKHOLDERS' EQUITY %	Rank	EARNINGS PER SHARE 1989/$	% change from 1988	1979-89 annual growth rate %	Rank	TOTAL RETURN TO INVESTORS 1989 %	Rank	1979-89 annual average %	Rank	INDUSTRY TABLE NUMBER	RANK 1989
272.4	357	1.1	396	1.6	394	5.1	373	0.63	6,200.0	(7.9)	297	(15.8)	354	15.5	197	17	251
754.7	266	2.2	355	3.1	347	6.1	367	1.60	(58.5)	(2.9)	275	14.7	220	16.2	182	5	252
N.A.		–		–		–		N.A.	–	–		40.4	115	–		5	253
N.A.		10.3	61	9.7	94	18.7	146	N.A.	–	–		N.A.		–		5	254
1,323.7	192	6.2	175	10.7	71	15.5	213	1.92	9.7	9.4	128	33.9	141	24.2	72	7	255
694.7	276	5.4	204	8.0	158	12.1	276	15.10	17.6	4.2	212	(2.4)	306	12.6	239	11	256
1,117.9	210	6.8	149	9.1	116	17.3	176	5.02**	10.3	0.3	252	27.3	171	11.2	261	4	257
929.5	241	3.6	298	3.5	328	5.2	372	1.88	(19.7)	(8.5)	298	(19.6)	371	4.5	314	11	258
N.A.		(15.2)	472	–		–		N.A.	–	–		N.A.		–		6	259
812.0	257	5.8	187	6.0	232	16.9	185	3.50	16.3	15.6	53	(6.1)	317	10.8	269	7	260
946.5	237	6.7	154	6.5	216	12.5	271	1.98	1.0	–		5.3	269	–		4	261
775.7	260	4.8	236	5.2	261	13.7	246	2.17	325.5	–		20.8	199	5.4	310	11	262
976.0	230	5.8	190	6.5	212	13.5	248	2.55	26.9	6.1	177	53.2	59	10.4	272	7	263
N.A.		27.0	2	41.1	1	96.7	7	N.A.	–	–		N.A.		–		25	264
2,068.1	135	8.4	96	10.2	78	15.8	206	2.24	(8.9)	10.5	117	39.7	117	29.0	35	23	265
746.2	268	3.0	328	4.3	302	6.9	358	0.80	(28.6)	0.6	248	(1.2)	300	11.0	266	17	266
728.5	273	3.8	287	8.6	137	19.7	129	1.72	(7.2)	3.8	216	55.3	52	19.4	126	1	267
947.4	236	10.0	68	6.3	223	15.3§	219	3.86	(11.7)	–		5.1	272	–		9	268
3,287.2	93	13.7	28	12.9	39	21.0	103	15.50	(25.9)	23.4	13	34.5	138	31.2	22	20	269
353.5	339	2.8	339	4.3	299	15.0	225	1.71	(74.1)	(21.5)	325	47.7	80	(13.8)	352	18	270
394.3	328	1.3	391	1.8	389	3.8	386	0.66	–	(11.1)	304	(9.8)	335	(3.2)	342	22	271
946.2	238	3.8	289	4.8	278	10.9	301	N.A.	–	–		56.3	49	–		9	272
762.1	262	4.8	230	6.8	202	14.0	240	4.02	48.9	(6.7)	292	19.1	204	2.9	323	11	273
414.9	324	1.8	373	2.8	355	5.7	369	0.38	(39.7)	(15.3)	316	(9.8)	336	–		5	274
N.A.		3.5	307	4.3	300	327.3§	3	N.A.	–	–		N.A.		–		7	275
2,072.3	134	11.7	37	19.4	12	26.9	51	1.87	48.4	–		40.3	116	–		2	276
1,101.6	212	6.5	162	7.4	186	11.5	288	1.56	25.8	34.0	3	20.9	198	51.0	1	26	277
N.A.		(0.2)	424	(0.2)	424	–		(0.88)**	–	–		N.A.		–		11	278
297.4	352	1.5	384	3.4	338	6.9	359	2.09	(55.5)	(15.5)	318	53.6	58	(1.3)	337	18	279
N.A.		0.5	410	0.7	407	2.5§	392	2.05	95.2	–		N.A.		–		24	280
1,072.2	215	0.0	421	0.0	421	0.1	406	0.01	(99.4)	–		73.9	24	–		6	281
N.A.		2.2	354	2.7	360	4.1	383	1.60	(46.5)	2.1	232	N.A.		–		4	282
N.A.		(3.0)	450	(2.8)	442	(112.2)	443	N.A.	–	–		N.A.		–		4	283
645.4	284	0.8	405	1.2	401	2.9	391	0.43	(63.2)	(13.1)	309	(4.2)	311	14.8	209	14	284
2,559.8	118	8.6	88	12.7	45	19.5	136	1.58	17.0	15.6	52	48.4	79	29.2	32	21	285
217.4	374	2.7	343	6.9	200	43.1§	21	5.04	21.4	–		36.9	129	–		15	286
459.3	317	2.3	351	3.4	335	7.4	356	1.53	20.5	10.3	120	(22.0)	375	5.0	312	7	287
209.5	375	1.2	395	1.7	392	4.9	377	0.77‡	–	–		N.A.		–		15	288
520.0	296	4.7	238	6.1	228	19.9	124	3.04	1.0	5.4	187	(10.7)	343	25.3	62	11	289
275.1	356	(9.0)	466	(11.5)	470	(22.9)	430	(4.10)	–	–		(32.4)	394	(7.6)	349	6	290
52.2	415	(0.9)	431	(1.5)	434	(5.7)	417	(0.91)**	(167.9)	–		(39.0)	400	0.4	331	4	291
816.9	256	5.5	201	3.8	321	22.1	90	1.17	6.4	–		133.3	5	–		2	292
2,593.0	117	11.6	40	18.0	13	24.2	73	1.79	6.5	15.6	54	41.9	110	26.6	53	20	293
323.5	345	1.3	390	1.9	386	4.8	378	0.89	(56.2)	(2.0)	269	(14.6)	352	19.4	127	2	294
933.2	239	15.7	17	10.9	68	25.3	60	5.00	42.5	19.6	25	31.9	149	17.3	161	9	295
1,051.3	218	3.5	308	4.1	311	7.8	348	1.38	32.7	5.1	194	74.0	23	22.7	87	20	296
1,262.6	196	4.6	245	5.6	246	9.9	315	2.71	(47.5)	2.6	227	27.2	173	17.4	157	15	297
1,626.1	167	7.1	140	5.7	242	13.9	244	1.14	22.6	–		42.3	106	–		20	298
834.9	251	10.7	54	15.7	21	39.1	27	3.09	237.7	21.9	16	87.7	13	21.4	104	8	299
N.A.		(8.4)	465	(5.0)	458	(45.8)	434	N.A.	–	–		N.A.		–		7	300

THE FORTUNE 500 LARGEST U.S. INDUSTRIAL CORPORATIONS

RANK 1989	1988		SALES $ millions	SALES % change from 1988	PROFITS $ millions	PROFITS Rank	PROFITS % change from 1988	ASSETS $ millions	ASSETS Rank	STOCKHOLDERS' EQUITY $ millions	STOCKHOLDERS' EQUITY Rank
301	317	**POTLATCH** San Francisco	1,240.8	14.5	136.7	173	21.7	1,686.0	216	829.5	180
302	337	**MATTEL** Hawthorne, Calif.	1,237.0	25.0	68.7‡	255	91.1	830.3	333	213.7	365
303	•	**ORYX ENERGY** Dallas	1,237.0	(3.8)	139.0	169	–	4,185.0	105	1,485.0	113
304	•	**IMC FERTILIZER GROUP** Northbrook, Ill.[2]	1,232.7	13.6	137.3	172	22.9	1,677.9	219	765.3	193
305	339	**BAUSCH & LOMB** Rochester, N.Y.	1,230.8	25.8	114.4	198	16.8	1,429.2	240	713.3	202
306	312	**LUBRIZOL** Wickliffe, Ohio	1,227.9	9.9	94.0	216	(32.9)	960.2	309	663.3	211
307	318	**BALL** Muncie, Ind.	1,222.4	13.9	35.8	324	(29.1)	938.0	315	384.3	293
308	328	**GOLD KIST** Atlanta[2,27]	1,216.3	16.5	N.A.		–	567.6	395	241.4	354
309	•	**FIRST BRANDS** Danbury, Conn.[2]	1,207.1	29.0	61.0	269	–	829.8	334	121.6	419
310	314	**WHEELING-PITTSBURGH STEEL** Wheeling	1,203.0	9.1	179.3**	142	(30.6)	1,485.9	235	155.2	404
311	329	**RORER GROUP** Fort Washington, Pa.	1,198.3	15.0	86.5	227	39.8	1,791.7	209	475.5	258
312	307	**GERBER PRODUCTS** Fremont, Mich.[39]	1,190.3[9]	2.1	81.4	236	284.2	697.2	364	330.4	309
313	434	**NACCO INDUSTRIES** Cleveland	1,187.6	92.6	53.9	284	20.0	1,680.2	217	300.8	326
314	306	**DWG** Miami Beach[17]	1,184.8	1.5	(.8)**	423	(102.2)	928.0	319	117.6	422
315	294	**ALLEGHENY LUDLUM** Pittsburgh	1,180.2	(2.3)	133.8	176	23.2	784.6	344	329.3	311
316	344	**SHAW INDUSTRIES** Dalton, Ga.[2]	1,176.0	22.7	47.6	293	40.9	538.0	407	184.7	389
317	370	**PENTAIR** St. Paul	1,163.6	41.3	36.4	318	(8.6)	781.4	347	306.9	322
318	310	**UNION TEXAS PETROLEUM HOLDINGS** Houston	1,159.7	2.0	172.6	148	57.9	1,720.6	213	275.3	336
319	•	**DOSKOCIL** South Hutchinson, Kans.[35,49]	1,148.3[9]	350.3	N.A.		–	N.A.		N.A.	
320	359	**HILLENBRAND INDUSTRIES** Batesville, Ind.[26]	1,144.4	29.4	75.0	244	7.5	1,009.8	300	405.1	280
321	338	**NEWELL** Freeport, Ill.	1,122.9	13.6	85.4	230	39.0	871.3	326	455.8	263
322	330	**M.A. HANNA** Cleveland	1,113.7	9.3	86.9	225	4.4	1,035.7	289	542.6	241
323	324	**GEORGIA GULF** Atlanta	1,106.5	4.3	192.0	136	(0.8)	473.0	429	330.3	310
324	258	**PERKIN-ELMER** Norwalk, Conn.[18]	1,105.3[9]	(22.6)	(24.2)	442	(133.7)	996.5	303	612.0	222
325	311	**ADVANCED MICRO DEVICES** Sunnyvale, Calif.	1,104.6	(1.9)	46.1	298	138.4	1,122.4	278	690.9	204
326	315	**RAYCHEM** Menlo Park, Calif.[2]	1,104.0	0.8	36.3	319	(71.0)	1,172.8	267	734.3	198
327	332	**FERRO** Cleveland	1,102.0	9.2	49.7	289	6.7	669.1	371	297.1	328
328	347	**SAVANNAH FOODS & INDUSTRIES** Savannah	1,096.7	19.6	41.1	311	104.8	481.8	423	169.5	396
329	335	**NALCO CHEMICAL** Naperville, Ill.	1,093.9	10.0	119.9	187	13.2	938.5	314	443.7	267
330	302	**FEDERAL-MOGUL** Southfield, Mich.	1,086.3	(7.7)	29.2	349	(30.0)	809.6	336	301.2	325
331	•	**ITT RAYONIER** Stamford, Conn.[50]	1,082.2	7.1	128.0	181	108.1	1,324.1	252	740.6	197
332	365	**IBC HOLDINGS** Kansas City, Mo.[8]	1,079.8	26.3	(23.5)	441	–	616.8	383	(22.7)	464
333	319	**BEMIS** Minneapolis	1,076.7	0.7	47.0	295	18.5	631.6	378	266.0	344
334	326	**VULCAN MATERIALS** Birmingham, Ala.	1,076.2	2.2	130.9	179	(3.8)	1,002.5	302	663.5	210
335	•	**ESSEX GROUP** Fort Wayne	1,056.0	–	26.7	361	–	451.1	437	101.9	433
336	219	**FORT HOWARD** Green Bay, Wis.	1,053.6	(43.3)	(239.4)	47[illegible]	–	N.A.		N.A.	
337	353	**ROHR INDUSTRIES** Chula Vista, Calif.[18]	1,047.7	15.5	33.5	333	3.1	1,164.7	268	412.4	276
338	340	**ANCHOR GLASS CONTAINER** Tampa[35]	1,040.1	6.4	N.A.		–	N.A.		N.A.	
339	322	**A.O. SMITH** Milwaukee	1,024.2	(3.7)	(9.6)‡	428	(150.3)	795.7	340	271.1	338
340	•	**LEAR SIEGLER SEATING** Southfield, Mich.[2]	1,015.5	–	(8.2)	427	–	734.6	354	49.4	448
341	343	**AMSTED INDUSTRIES** Chicago[5]	1,014.3[9]	5.6	65.0	263	475.2	573.5	393	177.3	393
342	362	**STORAGE TECHNOLOGY** Louisville, Colo.	1,014.0	16.0	47.7**	292	7.9	977.0	306	337.1	305
343	320	**BROWN-FORMAN** Louisville, Ky.[17]	1,012.0*	(5.1)	144.5	167	39.7	1,003.3	301	555.7	240
344	342	**GAF** Wayne, N.J.	1,010.9	5.2	(57.7)	452	(157.5)	1,829.2	205	(59.0)	467
345	357	**WM. WRIGLEY JR.** Chicago	1,010.7	13.4	106.1	201	21.7	498.6	418	343.0	302
346	354	**WORTHINGTON INDUSTRIES** Columbus, Ohio[8]	1,006.1	11.3	64.2	265	14.4	557.8	402	320.5	315
347	431	**TRINITY INDUSTRIES** Dallas[39]	1,001.9	58.3	30.3	343	132.3	878.1	325	227.7	359
348	321	**ARISTECH CHEMICAL** Pittsburgh	998.1	(6.3)	82.1	235	(56.4)	720.8	360	401.4	282
349	380	**WESTERN DIGITAL** Irvine, Calif.[2]	993.8	29.3	34.3	328	(21.0)	588.9	388	302.1	324
350	371	**LEGGETT & PLATT** Carthage, Mo.	991.6	22.4	45.9	299	21.7	568.3	394	281.6	334

The definitions, explanations, and footnotes underlying the figures in this directory are on page 367.

MARKET VALUE 3/9/90		PROFITS AS A PERCENT OF						EARNINGS PER SHARE				TOTAL RETURN TO INVESTORS				INDUSTRY TABLE NUMBER	RANK
		SALES		ASSETS		STOCKHOLDERS' EQUITY			% change from	1979-89 annual growth rate		1989		1979-89 annual average			
$ millions	Rank	%	Rank	%	Rank	%	Rank	1989/$	1988	%	Rank	%	Rank	%	Rank		1989
1,122.1	209	11.0	50	8.1	154	16.5	190	4.79	18.6	7.4	159	22.2	194	13.7	224	9	301
905.4	243	5.5	199	8.3	141	32.1	34	1.60‡	113.3	0.4	249	107.9	7	11.0	265	26	302
4,795.8	70	11.2	47	3.3	344	9.4	323	1.32	–	–		77.1	20	–		16	303
990.2	228	11.1	48	8.2	147	17.9	163	5.27	–	–		(21.3)	373	–		5	304
1,752.8	156	9.3	82	8.0	156	16.0	199	3.78	15.6	8.0	151	53.1	60	16.2	184	22	305
1,281.6	193	7.7	116	9.8	89	6.4§	365	2.52	(30.4)	0.8	247	9.3	248	7.5	294	5	306
653.3	282	2.9	334	3.8	322	9.3	325	1.44	(33.6)	1.9	236	25.2	184	23.7	76	14	307
N.A.		–		–		–		N.A.	–	–		N.A.		–		8	308
424.2	322	5.1	217	7.3	190	50.1	15	N.A.	–	–		N.A.		–		9	309
56.9	413	14.9	20	12.1	48	115.6	5	33.14**	(31.9)	10.5	116	27.1	174	(4.2)	345	15	310
2,227.1	128	7.2	131	4.8	273	18.2	160	2.67	36.2	9.1	132	12.1	235	19.2	129	19	311
1,559.9	172	6.8	151	11.7	54	24.6	67	4.13	286.0	10.7	115	65.6	35	30.2	27	8	312
463.8	315	4.5	246	3.2	345	17.9	165	6.08	19.7	16.9	43	78.4	18	18.1	151	11	313
255.2	360	(0.1)	423	(0.1)	423	(0.7)	407	(0.08)**	(107.2)	–		71.4	27	22.4	91	24	314
885.1	247	11.3	44	17.0	15	40.6	23	5.94	23.5	–		39.0	121	–		15	315
903.8	244	4.0	278	8.9	123	25.8	58	1.57	47.4	24.1	12	33.8	142	38.7	9	24	316
329.9	343	3.1	325	4.7	284	11.9	281	2.98	(19.5)	5.3	189	(9.7)	333	19.1	132	9	317
1,673.4	165	14.9	21	10.0	83	47.9§	20	1.49	104.1	–		77.2	19	–		16	318
8.3	418	–		–		–		N.A.	–	–		(10.2)	339	–		8	319
1,554.1	174	6.5	161	7.4	185	18.5	153	2.02	8.6	12.2	91	44.9	94	28.6	37	14	320
1,535.6	175	7.6	117	9.8	87	18.7	145	1.41	29.4	17.2	4[illegible]	60.1	43	40.1	6	14	321
691.2	277	7.8	114	8.4	140	16.0	200	3.34	(4.0)	(2.0)	270	42.8	103	4.2	315	5	322
977.5	229	17.4	11	40.6	2	58.1	12	7.58	12.3	–		18.2	206	–		5	323
1,027.0	221	(2.2)	438	(2.4)	440	(3.9)	415	(0.56)	(134.8)	–		(5.5)	314	2.9	322	22	324
730.1	271	4.2	269	4.1	309	6.7	362	0.44	300.0	10.3	119	(8.7)	330	2.7	325	7	325
957.9	234	3.3	318	3.1	346	4.9	376	1.04	(71.8)	(1.2)	264	(8.4)	328	6.7	299	21	326
446.6	319	4.5	247	7.4	184	15.6§	210	2.25	(0.7)	5.2	190	17.7	207	18.3	147	5	327
719.3	275	3.7	291	8.5	138	24.2	72	1.53	104.0	–		204.3	1	48.5	2	8	328
1,750.8	159	11.0	52	12.8	42	27.0	49	3.01	11.5	6.6	172	45.1	93	15.7	192	5	329
395.9	327	2.7	344	3.6	327	9.7	318	1.26	(24.3)	(2.7)	274	(8.3)	327	15.3	200	17	330
N.A.		11.8	35	9.7	96	17.3	178	N.A.	–	–		N.A.		–		9	331
N.A.		(2.2)	437	(3.8)	452	–		(3.45)	–	–		N.A.		–		8	332
755.3	265	4.4	257	7.4	182	17.7	171	1.80	21.6	9.4	129	50.8	71	30.5	26	9	333
1,741.6	160	12.2	32	13.1	37	19.7	128	3.24	(1.8)	9.0	136	10.7	242	23.0	84	16	334
N.A.		2.5	349	5.9	236	26.2	54	N.A.	–	–		N.A.		–		15	335
N.A.		(22.7)	473	–		–		N.A.	–	–		N.A.		–		9	336
373.4	332	3.2	324	2.9	349	8.1	341	1.90	2.7	(2.5)	272	(26.9)	388	11.1	262	1	337
N.A.		–		–		–		N.A.	–	–		N.A.		–		4	338
125.6	401	(0.9)	430	(1.2)	431	(3.5)	412	(1.66)‡	(189.2)	–		(13.1)	347	4.9	313	17	339
N.A.		(0.8)	429	(1.1)	430	(16.6)	427	N.A.	–	–		N.A.		–		10	340
N.A.		6.4	169	11.3	60	36.7	29	6.50	1,060.7	1.0	246	N.A.		–		15	341
511.5	300	4.7	239	4.9	270	14.2	236	1.83**	(3.7)	(19.4)	323	(32.9)	395	(23.6)	355	6	342
2,066.8	136	14.3	25	14.4	24	26.0	57	5.15	58.5	17.2	40	57.2	47	24.2	71	3	343
N.A.		(5.7)	460	(3.2)	443	–		N.A.	–	–		N.A.		–		5	344
1,959.8	144	10.5	58	21.3	8	30.9	39	2.70	23.9	13.3	78	52.7	62	21.0	110	8	345
819.9	255	6.4	171	11.5	57	20.0	119	1.58	15.3	12.4	88	3.3	279	17.0	167	15	346
471.4	313	3.0	329	3.5	332	13.3	253	1.60	116.2	(4.1)	278	(10.4)	340	12.4	246	27	347
N.A.		8.2	105	11.4	59	20.5	113	2.36	(53.2)	–		13.2	227	–		5	348
321.1	347	3.5	309	5.8	238	11.4	289	1.18	(22.9)	–		(43.2)	404	10.8	268	7	349
519.2	298	4.6	243	8.1	155	16.3	194	2.65	19.9	16.7	47	29.6	159	26.5	55	10	350

THE FORTUNE 500 LARGEST U.S. INDUSTRIAL CORPORATIONS

RANK 1989	1988		SALES $ millions	% change from 1988	PROFITS $ millions	Rank	% change from 1988	ASSETS $ millions	Rank	STOCKHOLDERS' EQUITY $ millions	Rank
351	376	**SCI SYSTEMS** Huntsville, Ala.[2]	990.5	27.9	20.9	376	10.1	624.3	379	169.7	395
352	254	**INT'L MINERALS & CHEMICAL** Northbrook, Ill.[2]	982.9	(33.2)	117.0	194	3.1	1,971.6	195	888.2	171
353	355	**CONSOLIDATED PAPERS** Wisconsin Rapids, Wis.	977.8	9.0	187.9	154	12.0	1,086.3	283	831.7	178
354	389	**MARION LABORATORIES** Kansas City, Mo.[2]	969.2	28.9	227.4	117	51.6	784.0	345	569.4	234
355	352	**MAGNETEK** Los Angeles[2]	961.6	5.7	18.3‡	386	(6.4)	646.6	375	98.8	436
356	336	**FUQUA INDUSTRIES** Atlanta	952.3	(4.1)	6.4	411	(93.1)	1,148.0	270	391.2	288
357	390	**STANDARD COMMERCIAL** Wilson, N.C.[39]	951.4¶	26.9	1.6**	419	(90.6)	558.9	401	139.1	411
358	341	**ALLEGHENY INTERNATIONAL** Pittsburgh[5]	949.7	(1.9)	(54.9)	450	–	858.9	328	(336.0)	482
359	351	**AG PROCESSING** Omaha[27,33]	949.3	4.3	N.A.		–	219.5	484	117.7	421
360	405	**PHILIPS INDUSTRIES** Dayton[39]	945.1	36.5	46.3	297	7.1	476.4	428	248.7	351
361	378	**VALERO ENERGY** San Antonio	941.3	22.1	41.5	308	35.7	1,017.6	297	512.5	248
362	356	**INTERLAKE** Oak Brook, Ill.	912.9	2.3	1.0	421	(97.6)	594.5	385	(203.0)	480
363	366	**SNAP-ON TOOLS** Kenosha, Wis.	890.8	4.2	104.7	203	(7.6)	777.6	348	572.7	232
364	350	**BRIGGS & STRATTON** Wauwatosa, Wis.[2]	877.1	(4.0)	(20.0)	435	(166.3)	560.8	400	259.2	346
365	372	**INTERGRAPH** Huntsville, Ala.	873.6	9.2	79.5	238	(9.6)	808.0	338	629.8	220
366	382	**OCEAN SPRAY** Lakeville-Middleboro, Mass.[27,33]	873.1	13.9	N.A.		–	520.7	413	193.8	381
367	391	**COOPER TIRE & RUBBER** Findlay, Ohio	869.6	16.3	58.2	273	41.8	519.9	414	310.1	320
368	367	**INT'L FLAVORS & FRAGRANCES** New York	869.5	3.6	138.6	171	7.7	969.6	308	764.9	194
369	●	**TEREX** Green Bay, Wis.	862.8	151.0	18.8	383	42.2	678.3	369	82.9	442
370	364	**CINCINNATI MILACRON** Cincinnati	861.2	0.4	17.4**	389	(53.2)	686.2	366	226.6	360
371	369	**DEXTER** Windsor Locks, Conn.	858.9	3.8	43.0	307	21.1	694.5	365	325.3	314
372	●	**CRYSTAL BRANDS** Southport, Conn.	857.2	98.2	18.5	384	(5.7)	682.5	367	237.7	355
373	345	**CF INDUSTRIES** Long Grove, Ill.[27]	855.9	(10.6)	N.A.		–	797.9	339	490.7	255
374	280	**AM INTERNATIONAL** Chicago[18]	855.1	(34.1)	31.0	339	–	615.2	384	243.2	353
375	377	**PITTWAY** Northbrook, Ill.	854.0	10.7	32.7	336	(12.2)	678.4	368	366.0	296
376	407	**IMO INDUSTRIES** Lawrenceville, N.J.	851.4	23.9	33.9	330	20.0	1,020.6	296	332.5	308
377	●	**J&L SPECIALTY PRODUCTS** Pittsburgh[5]	848.7	9.7	79.1	240	(27.6)	576.5	390	(97.5)	473
378	●	**DRESSER-RAND** Corning, N.Y.[5]	848.0	–	N.A.		–	521.4	412	276.2	335
379	435	**GREAT LAKES CHEMICAL** West Lafayette, Ind.	847.7	37.6	122.9	186	19.0	1,097.4	280	590.9	228
380	396	**UNIVERSAL FOODS** Milwaukee[5]	837.3	16.4	40.0	314	44.6	488.6	420	203.4	371
381	384	**HARLEY-DAVIDSON** Milwaukee	831.3	9.8	32.9	335	37.8	378.9	448	156.2	403
382	●	**JPS TEXTILE GROUP** Greenville, S.C.[6]	821.3	–	(57.2)	451	–	620.8	382	(59.8)	468
383	363	**QUAKER STATE** Oil City, Pa.	819.3	(5.7)	11.8	400	(20.7)	765.6	349	307.1	321
384	399	**CHESAPEAKE** Richmond	815.0	14.6	47.6	294	(7.6)	789.7	341	314.1	319
385	381	**KAMAN** Bloomfield, Conn.	801.8	4.5	8.7	407	(65.5)	441.1	441	182.5	390
386	398	**HERMAN MILLER** Zeeland, Mich.[8]	799.4	12.0	44.7	300	0.2	494.6	419	269.9	340
387	411	**MEREDITH** Des Moines[2]	792.6	16.8	33.2	334	(30.0)	667.4	372	366.8	295
388	415	**VALMONT INDUSTRIES** Valley, Neb.	789.8	19.2	20.7	379	35.0	321.9	472	99.4	435
389	392	**FLOWERS INDUSTRIES** Thomasville, Ga.[2]	789.3	7.0	29.6	347	(31.6)	448.0	438	208.5	368
390	409	**LESLIE FAY** New York	786.3	15.2	25.8	364	15.8	387.3	446	159.7	400
391	385	**CRAY RESEARCH** Minneapolis	784.7	3.8	89.0	222	(43.1)	955.8	310	594.3	226
392	375	**VISTA CHEMICAL** Houston[5]	779.2	(0.3)	119.9	188	6.0	566.8	396	(156.4)	476
393	383	**C.R. BARD** Murray Hill, N.J.	777.8	2.7	65.4	262	(16.9)	562.6	399	333.6	307
394	394	**DENNISON MANUFACTURING** Framingham, Mass.	777.0	7.7	29.1	350	(21.8)	553.7	404	268.0	342
395	348	**SMITHFIELD FOODS** Smithfield, Va.[17]	774.8	(15.4)	10.8	404	(35.4)	151.6	488	43.5	452
396	●	**TESORO PETROLEUM** San Antonio[5]	773.3	(31.2)	(30.5)	445	(257.7)	452.0	436	125.4	418
397	360	**SPX** Muskegon, Mich.	773.0¶	(11.9)	81.3	237	81.1	574.6	392	205.0	370
398	387	**INSILCO** Midland, Texas	766.0	1.7	(43.4)	448	–	1,105.4	279	44.5	451
399	325	**AMSTAR** New Haven, Conn.[2]	765.9¶	(27.6)	38.1	317	–	511.8	415	103.4	432
400	410	**HARVARD INDUSTRIES** Farmingdale, N.J.[5]	757.6	11.4	(20.4)‡	436	(245.1)	532.9	409	31.9	457

The definitions, explanations, and footnotes underlying the figures in this directory are on page 367.

MARKET VALUE 3/9/90		PROFITS AS A PERCENT OF						EARNINGS PER SHARE				TOTAL RETURN TO INVESTORS				INDUSTRY TABLE NUMBER	RANK
		SALES		ASSETS		STOCKHOLDERS' EQUITY			% change from	1979-89 annual growth rate		1989		1979-89 annual average			
$ millions	Rank	%	Rank	%	Rank	%	Rank	1989/$	1988	%	Rank	%	Rank	%	Rank		1989
240.5	366	2.1	360	3.3	340	12.3	272	1.00	9.9	26.3	6	(42.5)	403	18.7	142	6	351
1,210.5	202	11.9	34	5.9	234	13.2	256	4.49	22.7	0.0	256	39.3	119	8.6	286	5	352
1,842.4	150	17.2	12	15.5	22	20.2	118	3.85	11.9	11.6	100	31.4	154	25.7	59	9	353
N.A.		23.5	3	29.0	6	39.9	24	1.46	52.1	41.4	1	35.9	133	43.6	4	19	354
231.1	368	1.9	366	2.8	352	18.5	152	0.83‡	(11.0)	–		N.A.		–		7	355
484.2	305	0.7	407	0.6	410	1.6	395	0.30	(93.0)	(13.5)	311	(16.1)	357	21.5	103	11	356
83.2	407	0.2	418	0.3	418	1.2	399	0.20**	(90.4)	(13.8)	313	(22.0)	374	17.3	158	25	357
4.4	419	(5.8)	461	(6.4)	464	–		(7.80)	–	–		(82.7)	415	(35.0)	357	7	358
N.A.		–		–		–		N.A.	–	–		–		–		8	359
413.7	325	4.9	228	9.7	92	18.6	148	1.61	5.9	19.9	24	24.7	186	36.7	10	14	360
530.4	294	4.4	254	4.1	310	7.8§	350	0.98	81.5	–		72.0	26	–		18	361
78.7	408	0.1	420	0.2	419	–		0.09	(97.6)	(30.3)	331	22.6	191	23.2	82	11	362
1,364.5	188	11.8	36	13.5	34	10.8§	302	2.55	(6.3)	9.0	137	(4.4)	312	12.5	243	14	363
419.4	323	(2.3)	439	(3.6)	450	(7.7)	418	(1.39)	(166.5)	–		(1.9)	303	5.8	308	11	364
1,144.8	207	9.1	84	9.8	85	12.6	269	1.48	(4.5)	–		(17.9)	364	–		6	365
N.A.		–		–		–		N.A.	–	–		N.A.		–		8	366
742.9	269	6.7	153	11.2	63	18.8	144	2.84	41.3	24.2	11	36.4	130	39.5	7	21	367
2,246.0	127	15.9	15	14.3	26	18.1	162	3.65	7.4	8.1	149	42.0	107	17.5	155	23	368
224.9	372	2.2	356	2.8	354	22.7	85	2.37	32.4	–		73.1	25	–		17	369
429.5	321	2.0	364	2.5	365	7.7	353	0.70**	(53.9)	(11.8)	305	(17.5)	363	2.0	326	11	370
534.1	293	5.0	218	6.2	226	13.2	254	1.73	21.0	4.9	200	1.5	288	12.9	236	5	371
244.4	363	2.2	357	2.7	359	7.8	349	2.05	25.8	–		29.0	160	–		2	372
N.A.		–		–		–		N.A.	–	–		N.A.		–		5	373
160.8	391	3.6	297	5.0	266	12.8	265	0.47	–	(10.2)	302	(17.5)	362	(12.9)	351	6	374
503.4	302	3.8	288	4.8	274	8.9	332	2.38	–	–		N.A.		–		7	375
326.7	344	4.0	281	3.3	342	10.2	309	1.88	5.6	–		(18.5)	367	–		11	376
N.A.		9.3	81	13.7	30	–		N.A.	–	–		N.A.		–		15	377
N.A.		–		–		–		N.A.	–	–		N.A.		–		11	378
1,705.2	163	14.5	24	11.2	64	20.8	105	3.52	18.7	18.2	34	64.0	40	18.9	137	5	379
674.3	278	4.8	235	8.2	149	19.6	133	1.60	43.7	13.4	76	5.6	268	24.4	68	8	380
335.3	342	4.0	282	8.7	132	21.1	101	3.81	27.0	–		54.7	55	–		27	381
N.A.		(7.0)	463	(9.2)	468	–		N.A.	–	–		N.A.		–		24	382
349.2	340	1.4	386	1.5	395	3.9	385	0.44	(22.8)	(11.9)	306	(10.5)	341	3.6	318	18	383
390.7	330	5.8	188	6.0	231	15.2	222	2.31	(8.0)	8.4	146	2.6	284	13.2	231	9	384
147.8	395	1.1	397	2.0	382	4.8	380	0.48	(66.2)	0.3	251	(26.3)	386	16.0	189	1	385
480.4	306	5.6	196	9.0	117	16.6	189	1.84	1.1	14.9	61	1.8	286	22.5	90	10	386
581.0	289	4.2	268	5.0	268	9.0	331	1.75	(29.4)	7.1	168	17.0	210	22.1	98	20	387
205.7	377	2.6	347	6.4	219	20.8	106	1.78	29.5	15.9	50	69.0	30	29.1	33	7	388
655.8	281	3.7	293	6.6	210	14.2	235	0.85	(30.9)	9.8	122	1.7	287	28.5	38	8	389
221.9	373	3.3	319	6.7	207	16.1	195	1.35	15.4	–		8.1	255	–		2	390
1,396.3	185	11.3	43	9.3	110	15.0	226	3.02	(39.5)	25.4	8	(31.0)	393	18.0	152	6	391
373.0	334	15.4	18	21.2	9	–		8.56	32.1	–		(18.8)	368	–		5	392
729.2	272	8.4	97	11.6	55	19.6	134	1.18	(14.5)	17.6	36	(2.3)	305	28.2	41	22	393
373.0	335	3.7	292	5.3	256	10.9	299	1.82	(22.6)	0.0	255	(0.9)	298	12.6	241	9	394
72.6	412	1.4	388	7.1	195	24.7	66	1.32	(29.0)	13.6	74	(22.8)	380	19.9	120	8	395
126.6	400	(3.9)	455	(6.8)	465	(29.4)	432	(2.83)	–	–		(22.1)	376	(5.3)	347	18	396
337.4	341	10.5	57	14.2	27	(54.0)	436	5.70	56.6	10.1	121	12.0	236	16.5	178	17	397
N.A.		(5.7)	459	(3.9)	454	(97.5)	442	(0.74)	–	–		N.A.		–		17	398
N.A.		5.0	221	7.4	183	36.8	28	N.A.	–	–		N.A.		–		8	399
N.A.		(2.7)	446	(3.8)	453	(64.0)	440	N.A.	–	–		N.A.		–		17	400

RANK			SALES		PROFITS			ASSETS		STOCKHOLDERS' EQUITY	
1989	1988		$ millions	% change from 1988	$ millions	Rank	% change from 1988	$ millions	Rank	$ millions	Rank
401	388	**DANAHER** Washington, D.C.	756.4	0.5	61.1	268	38.9	507.1	416	191.7	383
402	404	**KELLWOOD** St. Louis[17]	753.7	8.0	33.5	332	10.9	447.2	439	191.0	384
403	408	**H.B. FULLER** St. Paul[26]	753.4	10.0	15.7	393	(25.7)	455.2	434	186.5	386
404	395	**LOUISIANA LAND & EXPLORATION** New Orleans	751.7	4.3	44.1	304	–	1,199.4	263	416.2	274
405	424	**MEDTRONIC** Minneapolis[17]	746.6	14.3	97.4	213	12.6	759.6	351	473.6	259
406	●	**TRI VALLEY GROWERS** San Francisco[illegible]	746.6	11.9	N.A.		–	505.2	417	135.3	412
407	412	**GAYLORD CONTAINER** Deerfield, Ill.[illegible]	746.0	11.1	39.4	315	(6.0)	1,010.0	299	180.3	392
408	401	**INTERNATIONAL CONTROLS** Kalamazoo, Mich.	743.5	5.6	2.9**	413	–	534.1	408	(111.8)	475
409	●	**MARK IV INDUSTRIES** Williamsville, N.Y.[illegible]	742.3	84.2	22.8	369	33.8	1,094.0	281	114.8	426
410	379	**EAGLE-PICHER INDUSTRIES** Cincinnati[illegible]	733.6	(4.7)	53.8	285	–	479.0	425	(213.5)	481
411	●	**EXIDE** Reading, Pa.[39]	725.3	11.2	(16.6)‡	432	(182.8)	476.8	427	(11.1)	461
412	443	**ALBERTO-CULVER** Melrose Park, Ill.[5]	717.4	18.6	29.4	348	9.5	362.6	453	160.1	399
413	428	**TEXAS INDUSTRIES** Dallas[8]	716.9	12.8	3.8	412	(71.0)	730.8	355	253.8	350
414	●	**CONE MILLS** Greensboro, N.C.	715.2	4.0	12.1‡	399	114.8	479.5	424	132.6	413
415	416	**NERCO** Portland, Ore.[32]	712.8	7.7	68.1	256	2.4	1,300.7	255	536.6	243
416	●	**ANACOMP** Indianapolis[5]	710.2	55.5	(170.8)	464	(512.4)	786.8	343	(78.8)	471
417	●	**CONNER PERIPHERALS** San Jose, Calif.	709.3	176.4	41.4	310	109.7	468.1	430	200.8	376
418	413	**STANDARD REGISTER** Dayton	708.9	5.9	40.4	313	5.9	459.2	432	319.1	316
419	454	**AVONDALE INDUSTRIES** Avondale, La.	708.3	19.6	1.8	417	(59.5)	476.8	426	263.0	345
420	417	**OHIO MATTRESS HOLDING** Cleveland[illegible]	705.8	6.7	(24.7)	443	(174.3)	1,130.7	275	45.2	449
421	421	**LONGVIEW FIBRE** Longview, Wash.[6]	701.3	6.7	66.5	261	(30.9)	738.9	352	385.4	292
422	429	**FINEVEST FOODS** Greenwich, Conn.	700.8	10.4	(19.0)	433	(657.9)	250.0	482	40.3	454
423	●	**LINCOLN ELECTRIC** Cleveland[35]	697.4	–	N.A.		–	N.A.		N.A.	
424	450	**JOSTENS** Minneapolis[2]	696.4	16.9	54.4	282	(38.8)	452.8	435	222.3	361
425	437	**COMMERCE CLEARING HOUSE** Riverwoods, Ill.	692.2	13.0	34.3	327	(30.6)	590.7	387	215.2	364
426	422	**CALMAT** Los Angeles	689.8	5.3	78.1	243	38.5	809.4	337	526.8	244
427	470	**DIBRELL BROTHERS** Danville, Va.[2]	689.5	24.2	14.6	395	14.7	302.9	475	75.1	443
428	480	**RUSSELL** Alexander City, Ala.	688.0	29.5	64.2	266	19.3	720.8	359	402.2	281
429	430	**RICELAND FOODS** Stuttgart, Ark.[18,27]	684.3	8.1	N.A.		–	262.8	480	149.6	407
430	436	**HUBBELL** Orange, Conn.	683.9	11.3	79.4	239	11.3	576.3	391	427.8	271
431	425	**LPL TECHNOLOGIES** Wallingford, Conn.[34]	679.9	4.5	27.9	355	200.6	726.5	357	45.1	450
432	406	**LONE STAR TECHNOLOGIES** Dallas	675.0¶	(1.9)	(191.4)‡	469	–	3,601.0	122	107.0	431
433	440	**UST** Greenwich, Conn.	669.8	10.4	190.5	139	17.5	636.3	377	482.3	257
434	●	**IMPERIAL HOLLY** Sugar Land, Texas[39]	667.8	–	22.4	371	–	320.1	473	100.2	434
435	●	**AFG INDUSTRIES** Fort Worth[35]	665.8	–	N.A.		–	N.A.		N.A.	
436	●	**ST. JOE PAPER** Jacksonville, Fla.	663.3	1.8	67.2	260	(18.7)	1,281.2	256	767.3	192
437	448	**NAT'L COOP. REFINERY ASSN.** McPherson, Kans.[2,27]	663.2	10.6	N.A.		–	351.4	456	201.9	374
438	496	**PILGRIM'S PRIDE** Pittsburg, Texas[5]	662.9	30.9	20.3	380	1,092.4	291.1	476	87.1	440
439	433	**MILLIPORE** Bedford, Mass.	661.4	6.4	52.9	287	(3.1)	650.6	374	406.9	279
440	439	**MAGMA COPPER** San Manuel, Ariz.	653.1	7.6	58.5**	272	3.8	954.1	311	449.3	264
441	438	**TORO** Bloomington, Minn.[18]	650.8	6.8	22.1	372	10.2	326.0	469	97.5	437
442	418	**HANDY & HARMAN** New York	645.6	(1.9)	7.8	409	(19.9)	455.7	433	116.4	424
443	442	**LUKENS** Coatesville, Pa.	645.0	6.6	41.5	309	24.3	376.7	449	202.9	373
444	463	**PHILLIPS-VAN HEUSEN** New York[23]	642.2	13.2	20.7	378	(31.1)	323.1	471	32.5	456
445	●	**TREDEGAR INDUSTRIES** Richmond	637.9	–	17.3	390	–	367.8	451	185.1	387
446	420	**WARNACO GROUP** New York	636.2¶	(3.2)	(20.8)	437	–	592.9	386	(71.5)	470
447	414	**SSMC** Shelton, Conn.[35]	635.2	(5.0)	N.A.		–	N.A.		N.A.	
448	469	**CARPENTER TECHNOLOGY** Reading, Pa.[2]	634.3	14.2	29.0	351	19.0	674.0	370	318.6	317
449	●	**HELENE CURTIS INDUSTRIES** Chicago[24]	629.2	28.7	14.4	396	33.3	325.2	470	131.8	414
450	478	**SUDBURY** Cleveland[8]	626.9¶	17.9	(15.6)	431	(238.1)	350.9	457	62.5	447

The definitions, explanations, and footnotes underlying the figures in this directory are on page 367.

MARKET VALUE 3/9/90 $ millions	Rank	PROFITS AS A PERCENT OF SALES %	Rank	ASSETS %	Rank	STOCKHOLDERS' EQUITY %	Rank	EARNINGS PER SHARE 1989/$	% change from 1988	1979-89 annual growth rate %	Rank	TOTAL RETURN TO INVESTORS 1989 %	Rank	1979-89 annual average %	Rank	INDUSTRY TABLE NUMBER	RANK 1989
353.7	338	8.1	108	12.1	49	31.9	35	2.57	38.9	–		8.0	256	20.8	113	14	401
202.9	379	4.4	251	7.5	180	17.5	174	2.90	11.1	21.1	18	(14.0)	350	26.1	57	2	402
204.7	378	2.1	361	3.4	333	8.4	336	1.64	(25.5)	7.1	169	(15.8)	355	16.7	174	5	403
1,161.3	206	5.9	184	3.7	323	10.6	303	1.50	–	(10.3)	303	41.9	109	5.5	309	16	404
1,724.7	162	13.0	29	12.8	41	20.6	112	7.30	15.5	16.8	44	71.3	28	16.1	187	22	405
N.A.		–		–		–		N.A.	–	–		N.A.		–		8	406
112.7	403	5.3	208	3.9	318	21.9	92	2.48	(10.0)	–		(45.3)	408	–		9	407
N.A.		0.4	411	0.6	411	–		N.A.	–	–		N.A.		–		17	408
172.4	387	3.1	326	2.1	380	19.9	125	2.10	22.8	28.6	4	90.9	11	–		7	409
76.2	411	7.3	129	11.2	61	–		5.04	–	5.1	195	(40.8)	402	(3.6)	343	17	410
N.A.		(2.3)	440	(3.5)	448	–		(179.20)‡	(214.0)	–		N.A.		–		7	411
613.9	288	4.1	274	8.1	153	18.4	156	2.25	13.1	17.1	42	22.5	192	35.3	13	23	412
225.0	371	0.5	409	0.5	412	1.5	396	0.14	(86.6)	(26.4)	327	(27.2)	389	6.5	302	15	413
N.A.		1.7	379	2.5	367	9.1	328	N.A.	–	–		N.A.		–		24	414
963.8	232	9.6	75	5.2	259	12.7	266	1.90	(4.5)	–		66.2	34	–		16	415
127.2	399	(24.1)	475	(21.7)	473	–		(4.47)	(506.4)	–		(37.0)	399	(8.8)	350	22	416
739.9	270	5.8	186	8.9	122	20.6	109	1.09	87.9	–		66.7	32	–		6	417
473.9	312	5.7	194	8.8	127	12.6	268	1.35	5.5	22.7	15	1.4	289	26.2	56	20	418
160.0	392	0.3	415	0.4	415	0.7	403	0.12	(45.5)	–		(9.8)	337	–		27	419
N.A.		(3.5)	454	(2.2)	438	(54.7)	438	N.A.	–	–		N.A.		–		10	420
661.3	280	9.5	77	9.0	118	17.3	180	6.04	(30.7)	6.0	179	(6.9)	318	12.0	250	9	421
84.8	406	(2.7)	447	(7.6)	467	(47.1)	435	(1.79)	(597.2)	–		5.9	266	–		8	422
N.A.		–		–		–		N.A.	–	–		N.A.		–		11	423
1,008.3	225	7.8	113	12.0	50	24.5	68	1.39	(44.0)	10.7	113	55.0	53	24.3	69	12	424
853.3	250	5.0	222	5.8	239	16.0	203	1.92	(30.2)	5.9	183	(7.1)	319	15.7	191	20	425
864.9	248	11.3	45	9.6	98	14.8	228	2.52	38.5	4.5	208	9.2	250	11.4	258	4	426
155.4	394	2.1	359	4.8	275	19.4	137	2.21	16.9	16.8	45	31.9	151	33.6	15	25	427
1,036.7	219	9.3	80	8.9	121	16.0	202	1.57	15.4	13.9	68	64.1	38	33.7	14	2	428
N.A.		–		–		–		N.A.	–	–		N.A.		–		8	429
1,180.7	204	11.6	38	13.8	29	18.6	151	2.78	11.8	11.0	108	45.8	86	24.2	70	7	430
125.5	402	4.1	273	3.8	320	61.9	11	3.68	312.0	–		140.0	4	–		7	431
93.5	405	(28.4)	476	(5.3)	459	(178.9)	445	(9.50)‡	–	–		(73.6)	414	–		15	432
2,812.2	109	28.4	1	29.9	4	39.5	26	1.63	15.6	18.4	30	54.7	54	33.3	17	25	433
247.7	362	3.4	316	7.0	196	22.3	89	3.75	–	–		140.2	3	–		8	434
N.A.		–		–		–		N.A.	–	–		N.A.		–		4	435
N.A.		10.1	64	5.2	257	8.8	333	N.A.	–	–		N.A.		–		9	436
N.A.		–		–		–		N.A.	–	–		N.A.		–		18	437
186.4	385	3.1	327	7.0	197	23.3	80	0.90	1,025.0	–		15.5	212	–		8	438
787.8	259	8.0	109	8.1	151	13.0	260	1.90	(3.1)	8.3	147	(22.4)	378	7.4	295	22	439
137.5	398	9.0	85	6.1	227	13.0	258	1.82**	21.3	–		(26.8)	387	–		15	440
277.2	354	3.4	313	6.8	205	22.7	84	2.10	14.1	0.1	253	35.0	136	6.7	300	11	441
242.5	365	1.2	394	1.7	391	6.7	361	0.56	(20.0)	(5.8)	287	(3.1)	308	1.6	328	15	442
315.7	349	6.4	167	11.0	66	20.5	114	4.73	21.0	17.3	39	47.0	82	20.7	114	15	443
156.9	393	3.2	323	6.4	222	63.6	10	1.34	(32.0)	9.4	131	16.0	211	22.0	100	2	444
166.6	388	2.7	341	4.7	281	9.3	324	0.94	–	–		N.A.		–		21	445
N.A.		(3.3)	452	(3.5)	449	–		(12.70)	–	–		N.A.		–		2	446
227.6	369	–		–		–		N.A.	–	–		51.1	68	–		7	447
446.9	318	4.6	244	4.3	301	9.1	329	3.16	18.4	(4.0)	276	7.2	263	10.2	274	15	448
205.8	376	2.3	352	4.4	297	11.0	297	3.43	16.7	21.6	17	28.5	162	30.8	25	23	449
54.5	414	(2.5)	441	(4.5)	455	(25.0)	431	(1.28)	(248.8)	–		(24.4)	382	–		17	450

THE FORTUNE 500 LARGEST U.S. INDUSTRIAL CORPORATIONS

451-500

RANK 1989	1988		SALES $ millions	SALES % change from 1988	PROFITS $ millions	PROFITS Rank	PROFITS % change from 1988	ASSETS $ millions	ASSETS Rank	STOCKHOLDERS' EQUITY $ millions	STOCKHOLDERS' EQUITY Rank
451	449	**A. SCHULMAN** Akron[33]	626.2	4.8	30.8	340	11.5	257.7	481	166.6	397
452	●	**GITANO GROUP** New York	625.9	34.7	30.7	341	–	440.9	442	126.5	417
453	●	**HUDSON FOODS** Rogers, Ark.[5]	623.1	13.5	22.8	370	53.9	289.4	477	110.6	428
454	447	**BELL & HOWELL** Skokie, Ill.	622.6¶	3.8	25.4**	365	–	702.0	363	86.0	441
455	457	**GUILFORD MILLS** Greensboro, N.C.[2]	622.1	7.6	26.3	362	(1.6)	409.9	445	207.7	369
456	498	**CAMERON IRON WORKS** Houston[2,55]	619.8	23.6	20.1	381	–	737.3	353	351.6	299
457	488	**POPE & TALBOT** Portland, Ore.	618.8	20.2	43.6	306	36.6	355.5	455	199.3	377
458	461	**P.H. GLATFELTER** Spring Grove, Pa.	613.5	7.8	92.9	217	12.9	550.0	405	382.1	294
459	452	**THORN APPLE VALLEY** Southfield, Mich.[8]	612.8	3.3	2.3	414	(57.0)	110.7	489	28.0	458
460	397	**REXENE** Dallas	612.5	(14.8)	(66.3)‡	454	(151.2)	555.7	403	(81.4)	472
461	●	**MARLEY** Mission Woods, Kans.[6]	611.4	7.9	(11.4)‡	429	(289.8)	334.3	465	(30.4)	465
462	459	**HON INDUSTRIES** Muscatine, Iowa	608.4	5.8	27.5	358	(22.2)	284.3	479	128.2	415
463	460	**MAXUS ENERGY** Dallas	608.1	5.8	(31.0)	446	–	1,477.8	237	(56.7)	466
464	386	**MEDIA GENERAL** Richmond	606.4	(19.8)	20.7‡	377	134.9	782.7	346	258.6	347
465	451	**WESTMORELAND COAL** Philadelphia	604.6	1.9	11.5	402	661.9	345.4	460	150.7	406
466	446	**REYNOLDS & REYNOLDS** Dayton[2]	604.5	0.7	27.2	359	4.4	486.8	422	221.5	362
467	●	**NEWMONT MINING** Denver	602.8	20.5	125.9	182	(28.0)	1,301.7	254	(199.6)	479
468	334	**TYLER** Dallas	601.6¶	(39.6)	1.4	420	(93.1)	188.1	486	117.3	423
469	475	**FOXBORO** Foxboro, Mass.	597.8	10.7	(4.6)	425	(146.5)	443.8	440	182.1	391
470	481	**KIMBALL INTERNATIONAL** Jasper, Ind.[2]	597.5	12.8	34.3	329	(3.7)	337.7	462	247.0	352
471	500	**CHEMED** Cincinnati	594.4	18.7	26.2	363	8.5	335.3	463	120.8	420
472	●	**THERMO ELECTRON** Waltham, Mass.	594.1	18.7	24.6	367	22.1	623.6	381	210.6	366
473	445	**SOUTHDOWN** Houston	592.5	(1.3)	68.0	257	20.0	1,060.1	286	342.6	303
474	482	**BANTA** Menasha, Wis.[56]	588.9	11.8	33.6	331	45.4	382.9	447	194.7	379
475	402	**AMETEK** New York	587.8	(16.2)	38.3	316	25.2	563.3	398	194.9	378
476	465	**TAMBRANDS** Lake Success, N.Y.	583.4	3.6	1.7	418	(98.0)	411.0	444	284.5	332
477	426	**BUTLER MANUFACTURING** Kansas City, Mo.	582.0	(9.9)	9.8	406	(36.0)	241.2	483	42.1	453
478	●	**INTERFACE** LaGrange, Ga.	581.8	46.7	24.5	368	21.6	525.8	410	157.0	401
479	403	**STERLING CHEMICALS** Houston[5]	581.0	(16.9)	103.9	204	(51.2)	329.0	468	110.4	429
480	473	**BANNER INDUSTRIES** Beachwood, Ohio[2,57]	579.2¶	5.8	50.0‡	288	–	1,421.8	241	95.4	438
481	490	**PRAIRIE FARMS DAIRY** Carlinville, Ill.[5,27]	578.1	12.9	N.A.		–	156.5	437	91.8	439
482	466	**MITCHELL ENERGY** The Woodlands, Texas[23]	577.2	2.7	21.5	373	146.0	1,996.3	193	567.2	235
483	●	**STANHOME** Westfield, Mass.	576.9	20.1	44.6	301	9.8	335.2	464	170.4	394
484	497	**MOLEX** Lisle, Ill.[2]	575.7	14.6	57.7	275	(2.7)	541.3	406	428.8	270
485	468	**UIS** New York	573.4	2.4	27.6	356	(22.3)	365.5	452	272.3	337
486	471	**SUN-DIAMOND GROWERS** Pleasanton, Calif.[18,27]	572.2	3.3	N.A.		–	289.0	478	115.0	425
487	441	**DIXIE YARNS** Chattanooga	570.8	(5.9)	11.7	401	(45.5)	346.5	459	184.7	388
488	●	**DELTA WOODSIDE INDUSTRIES** Greenville, S.C.[2]	569.4	16.5	30.3	344	9.6	331.0	467	127.1	416
489	456	**OXFORD INDUSTRIES** Atlanta[8]	566.2	(4.1)	9.9	405	–	213.1	485	107.6	430
490	499	**NCH** Irving, Texas[17]	565.6	12.9	36.3	320	21.2	373.4	450	202.9	372
491	483	**BIG THREE INDUSTRIES** Houston[35,58]	565.0	7.6	N.A.		–	N.A.		N.A.	
492	458	**ALLIED PRODUCTS** Chicago	564.6	(2.2)	(22.4)	438	(511.3)	487.0	421	114.7	427
493	489	**THOMAS & BETTS** Bridgewater, N.J.	561.8	9.2	53.7	286	(8.4)	564.3	397	335.5	306
494	493	**STANDARD PRODUCTS** Cleveland[2]	559.9	10.2	28.7	352	(15.8)	333.7	466	156.3	402
495	462	**CARLISLE** Syracuse, N.Y.	557.6	(1.7)	27.0	360	55.3	337.9	461	208.7	367
496	●	**LA-Z-BOY CHAIR** Monroe, Mich.[17]	556.3	14.3	27.5	357	3.7	349.0	458	194.3	380
497	492	**SCIENTIFIC-ATLANTA** Atlanta[2]	552.3	8.6	36.3	321	22.3	355.6	454	256.6	348
498	●	**WESTERN PUBLISHING GROUP** New York[23]	551.2	16.4	29.9	346	38.0	311.2	474	162.8	398
499	●	**LSI LOGIC** Milpitas, Calif.	546.9	–	(24.9)	444	–	765.2	350	297.3	327
500	477	**AFFILIATED PUBLICATIONS** Boston	543.1	1.7	16.4	391	–	467.7	431	201.1	375
		TOTALS	2,164,346.9		105,572.4			2,288,122.5		719,044.6	

MARKET VALUE 3/9/90 $ millions	Rank	PROFITS AS A PERCENT OF SALES %	Rank	ASSETS %	Rank	STOCKHOLDERS' EQUITY %	Rank	EARNINGS PER SHARE 1989/$	% change from 1988	1979-89 annual growth rate %	Rank	TOTAL RETURN TO INVESTORS 1989 %	Rank	1979-89 annual average %	Rank	INDUSTRY TABLE NUMBER	RANK 1989
495.9	304	4.9	226	12.0	51	18.5	154	2.30	11.7	15.0	60	27.7	168	35.4	11	21	451
459.4	316	4.9	227	7.0	198	24.3	71	2.21	54.5	–		41.7	111	–		2	452
161.4	390	3.7	295	7.9	167	20.6	111	1.70	51.8	–		(0.2)	295	–		8	453
N.A.		4.1	275	3.6	326	29.5	44	N.A.	–	–		–		–		22	454
202.3	380	4.2	264	6.4	221	12.7	267	2.67	1.5	(2.2)	271	(8.7)	331	17.0	166	24	455
N.A.		3.2	321	2.7	357	5.7	370	0.49	–	(13.0)	308	N.A.		–		14	456
282.9	353	7.1	141	12.3	46	21.9	91	3.70	38.1	6.2	175	47.4	81	16.6	176	9	457
975.6	231	15.1	19	16.9	16	24.3	70	3.85	13.2	16.2	48	17.5	209	29.0	34	9	458
N.A.		0.4	412	2.1	381	8.2	338	0.70	(53.3)	2.0	235	(9.7)	334	(2.1)	341	8	459
77.5	409	(10.8)	468	(11.9)	471	–		(2.10)‡	–	–		(68.0)	413	–		5	460
N.A.		(1.9)	436	(3.4)	446	–		(3.03)‡	–	–		N.A.		–		11	461
622.3	287	4.5	248	9.7	97	21.4	97	1.58	(16.4)	6.5	173	110.7	6	20.1	118	10	462
997.5	227	(5.1)	458	(2.1)	436	–		(0.86)	–	–		60.0	44	(2.1)	338	16	463
759.1	263	3.4	311	2.6	361	8.0	344	0.80‡	158.1	(0.7)	262	(7.7)	324	19.1	131	20	464
202.1	381	1.9	367	3.3	343	7.6	354	1.39	672.2	18.3	33	51.7	64	(0.7)	335	16	465
392.8	329	4.5	249	5.6	245	12.3	273	2.53	4.1	4.9	201	3.8	276	9.3	282	20	466
3,436.2	89	20.9	6	9.7	95	–		1.87	(28.1)	(6.1)	288	45.5	89	17.3	159	16	467
180.7	386	0.2	416	0.8	406	1.2	398	0.68	(38.7)	(5.3)	286	165.6	2	21.2	108	5	468
277.0	355	(0.8)	427	(1.0)	427	(2.5)	410	(0.30)	(137.5)	–		(25.2)	383	1.2	330	22	469
476.9	308	5.7	192	10.2	80	13.9	243	1.62	(3.6)	7.7	155	31.3	155	21.9	101	10	470
323.3	346	4.4	255	7.8	169	21.7	94	2.61	0.4	6.7	170	14.9	218	13.4	228	23	471
631.9	286	4.1	271	3.9	317	11.7	285	1.35	17.4	11.0	107	51.2	67	14.9	207	22	472
466.8	314	11.5	42	6.4	220	19.5§	135	3.66	(1.6)	7.4	158	38.4	123	11.4	259	4	473
269.4	358	5.7	193	8.8	128	17.3	181	2.64	41.9	20.7	21	0.1	294	27.4	47	20	474
570.0	290	6.5	163	6.8	203	19.7	131	0.87	24.3	5.1	192	8.7	253	13.5	225	7	475
1,618.5	168	0.3	414	0.4	414	0.6	404	0.08	(97.9)	(27.0)	329	22.2	195	22.1	96	9	476
77.3	410	1.7	380	4.1	312	23.3	79	2.15	(37.0)	(6.5)	290	(1.1)	299	7.6	292	14	477
304.7	351	4.2	266	4.7	283	15.6	209	1.43	21.2	–		18.8	205	–		24	478
435.1	320	17.9	10	31.6	3	94.1	8	1.77	(50.1)	–		(47.5)	409	–		5	479
187.2	384	8.6	89	3.5	329	50.0§	17	3.30‡	–	23.1	14	84.7	15	14.9	208	14	480
N.A.		–		–		–		N.A.	–	–		–		–		8	481
948.8	235	3.7	294	1.1	403	3.8	387	0.46	142.1	(4.1)	277	96.7	8	7.6	291	16	482
520.4	295	7.7	115	13.3	35	26.2	55	2.23	13.2	13.3	80	44.7	96	30.9	24	23	483
1,068.1	216	10.0	67	10.7	73	13.5	249	2.28	(2.6)	15.1	59	1.4	290	21.1	109	7	484
N.A.		4.8	233	7.5	178	10.1	312	N.A.	–	–		–		–		17	485
N.A.		–		–		–		N.A.	–	–		–		–		8	486
140.7	396	2.1	362	3.4	336	6.3	366	1.13	(37.2)	5.5	186	(16.2)	358	–		24	487
139.1	397	5.3	206	9.1	115	23.8	78	1.65	3.8	–		8.9	251	–		24	488
108.7	404	1.7	377	4.6	285	9.2	327	0.99	–	5.9	184	25.3	183	21.3	106	2	489
503.5	301	6.4	168	9.7	91	17.9	166	4.06	23.4	7.3	161	46.8	83	13.4	227	5	490
N.A.		–		–		–		N.A.	–	–		–		–		5	491
35.1	416	(4.0)	456	(4.6)	457	(20.6)	429	(5.13)	(793.2)	–		(43.3)	405	(2.9)	339	11	492
930.1	240	9.6	74	9.5	103	16.0	201	3.16	(8.7)	4.9	199	9.8	247	13.0	233	7	493
227.1	370	5.1	214	8.6	135	18.3	157	2.71	(13.7)	18.7	28	(22.3)	377	32.0	21	21	494
249.2	361	4.8	231	8.0	157	12.9	262	3.34	54.6	5.1	196	(2.8)	307	14.1	220	21	495
313.3	350	4.9	224	7.9	166	14.1	238	1.54	6.2	14.1	67	(4.1)	310	25.8	58	10	496
519.5	297	6.6	158	10.2	79	14.1	237	1.53	22.4	13.3	79	82.3	17	11.1	264	7	497
373.3	333	5.4	203	9.6	101	17.8§	168	1.45	34.3	–		15.4	214	–		20	498
359.4	337	(4.6)	457	(3.3)	445	(8.4)	419	(0.60)	(200.0)	–		(33.7)	398	–		7	499
752.4	267	3.0	331	3.5	330	8.1	340	0.23	–	2.4	229	34.9	137	44.4	3	20	500

1,375,989.5

The definitions, explanations, and footnotes underlying the figures in this directory are on page 367.

DEFINITIONS AND EXPLANATIONS

SALES

All companies on the list must have derived more than 50% of their sales from manufacturing and/or mining. Sales of consolidated subsidiaries are included. Sales from discontinued operations are also included if these figures are published. If the sales are at least 10% higher [illegible] this reason, there is a symbol (¶) next to the sale[illegible]. All figures are for the year ended December [illegible]89, unless otherwise noted. Sales figures do not include excise taxes collected by manufacturers, and so the figures for some corporations—most of which sell gasoline, liquor, or tobacco—may be lower than those published by the corporations themselves. If they are at least 5% lower for this reason, there is an asterisk (*) next to the sales figures.

PROFITS

Profits are shown after taxes and after extraordinary credits or charges if any appear on the income statement. A double asterisk (**) signifies an extraordinary credit reflecting at least 10% of the profits shown, a double dagger (‡) an extraordinary charge of at least 10%. Figures in parentheses indicate a loss. Profit declines over 100% reflect swings from 1988 profits to 1989 losses. Cooperatives provide only "net margin" figures, which are not comparable with the profits figures in these listings, and therefore N.A. is shown in that column.

ASSETS

Assets shown are those at the company's fiscal yearend.

STOCKHOLDERS' EQUITY

Stockholders' equity is the sum of capital stock, surplus, and retained earnings at the company's yearend. Redeemable preferred stock is excluded if its redemption is either mandatory or outside the control of the company, except in the case of cooperatives. For purposes of calculating "profits as percent of stockholders' equity," any dividends paid on redeemable preferred stock, if that stock's redemption is either mandatory or outside the control of the company, have been subtracted from the profit figure.

MARKET VALUE

The figure shown was arrived at by multiplying the number of common shares outstanding (at the latest date available) by the price per common share as of March 9, 1990.

EARNINGS PER SHARE

For all companies the figures shown are the primary earnings per share that appear on the company's income statement. Per share earnings for 1988 and 1979 are adjusted for stock splits and stock dividends. They are not restated for mergers, acquisitions, or accounting changes made after 1979. A double asterisk (**) signifies an extraordinary credit reflecting at least 10% of the profit shown, a double dagger (‡) an extraordinary charge of at least 10%. Results are listed as not available (N.A.) if the companies are cooperatives, joint ventures, or wholly owned subsidiaries of other companies, or if the figures were not published in 1979. The growth rate is the average annual growth, compounded.

TOTAL RETURN TO INVESTORS

Total return to investors includes both price appreciation and dividend yield to an investor in the company's stock. The figures shown assume sales at the end of 1989 of stock owned at the end of 1979 and 1988. It has been assumed that any proceeds from cash dividends, the sale of rights and warrant offerings, and stock received in spinoffs were reinvested when they were paid. Returns are adjusted for stock splits, stock dividends, recapitalizations, and corporate reorganizations as they occur; however, no effort has been made to reflect the cost of brokerage commissions or of taxes. Results are listed as not available (N.A.) if shares are not publicly traded or are traded on only a limited basis. If companies have more than one class of shares outstanding, only the more widely held and actively traded has been considered. Total return percentages shown are the returns received by the hypothetical investor described above. The ten-year figures are annual averages, compounded.

INDUSTRY TABLES

Industry table numbers used in the directory indicate the groups in which companies are placed in "The 500 by Industry, Ranked by 11 Measures," beginning on page 371. Companies are included in the industry that represents the greatest volume of their industrial sales. Industry groups are based on categories established by the U.S. Office of Management and Budget and issued by the Federal Statistical Policy and Standards Office. The median figures in the tables refer only to results of companies in the 500; no attempt has been made to calculate medians in groups with fewer than four companies.

Most of the figures in this FORTUNE 500 Directory were prepared by Ret Autry and Mark M. Colodny, who are responsible for the columns reporting on companies' sales, assets, profits, and stockholders' equity, and the industry table numbers. Figures on market value, earnings per share, and total return to investors were prepared by Claudine Knight and Kathleen Smyth.

FOOTNOTES TO THE 500

● Indicates that a company was not among the 500 in 1988.
* Does not include excise taxes; see the explanation of "sales" above.
** Reflects an extraordinary credit of at least 10%; see the explanations of "profits" and "earnings per share" above.
N.A. Not available.
‡ Reflects an extraordinary charge of at least 10%; see the explanations of "profits" and "earnings per share" above.
¶ Includes sales from discontinued operations of at least 10%; see the explanation of "sales" above.
§ Dividends paid or mandatory redeemable preferred stock subtracted from profits.

1

[1] Owned by Royal Dutch/Shell Group (1988 International 500: rank 1).
[2] Figures are for fiscal year ended June 30, 1989.
[3] Figures include Sheller-Globe (1988 rank: 368), acquired November 9, 1989.
[4] Name changed from RJR Nabisco.
[5] Figures are for fiscal year ended September 30, 1989.
[6] Figures are for fiscal year ended October 31, 1989.
[7] Figures include Apollo Computer (1988 rank: 423), acquired May 18, 1989.
[8] Figures are for fiscal year ended May 31, 1989.
[9] Figures include Squibb (1988 rank: 166), acquired October 4, 1989.

10

[10] Figures include Fabergé (1988 rank: 453), acquired August 3, 1989.
[11] Owned by Unilever (1988 International 500 rank: 11).
[12] Figures include Warner Communications (1988 rank: 109), acquired July 24, 1989.
[13] Figures include A.H. Robins (1988 rank: 346), acquired December 15, 1989.
[14] Owned by Philips' Gloeilampenfabrieken (1988 International 500 rank: 13).
[15] Owned by Hoechst (1988 International 500 rank: 20).
[16] Owned by Hanson (1988 International 500 rank: 62).
[17] Figures are for fiscal year ended April 30, 1989.
[18] Figures are for fiscal year ended July 31, 1989.
[19] Owned by Bayer (1988 International 500 rank: 22).

20

[20] Owned by BASF (1988 International 500 rank: 19).
[21] Figures include Champion Spark Plug (1988 rank: 374), acquired March 23, 1989.
[22] Owned by Petroleós de Venezuela (1988 International 500 rank: 68).
[23] Figures are for fiscal year ended January 31, 1989.
[24] Figures are for fiscal year ended February 28, 1989.
[25] Owned by American Financial (1988 Service 500 rank: S-5).
[26] Figures are for fiscal year ended November 30, 1989.
[27] Cooperatives provide only net margin figures, which are not comparable to the profit figures on this list.
[28] Figures include Emhart (1988 rank: 155), acquired July 18, 1989.
[29] Figures include Chicago Pacific (1988 rank: 250), acquired January 26, 1989.

30

[30] Owned by Petrofina (1988 International 500 rank: 63).
[31] Consolidates Joseph E. Seagram & Sons.
[32] Owned by Seagram (1988 International 500 rank: 288).
[33] Figures are for fiscal year ended August 31, 1989.
[34] Owned by Jefferson Smurfit Group (1968 International 500 rank: 431).
[35] FORTUNE estimate.
[36] Owned by National Intergroup (1988 Service 500: S-24).
[37] Name changed from Corning Glass Works.
[38] Separated into Morton International and Thiokol, July 1, 1989.
[39] Figures are for fiscal year ended March 31, 1989.

40

[40] Owned by McDermott International (1988 International 500 rank: 334).
[41] Named changed from Diamond Shamrock R&M.
[42] Acquired by Tyson Foods July 18, 1989.
[43] Figures include Jepson (1988 rank: 467), acquired September 12, 1989.
[44] Owned by Lafarge Coppée (1988 International 500 rank: 211).
[45] Owned by Loews (1988 Service 500 rank: F-15).
[46] Owned by Esselte (1988 International 500 rank: 335).
[47] Consolidates Fieldcrest Cannon (1988 rank: 274).
[48] Owned by Saint-Gobain (1988 International 500 rank: 64).
[49] Figures include Wilson Foods (1988 rank: 276), acquired October 17, 1988.

50

[50] Owned by ITT (1988 Service 500 rank: F-8).
[51] Includes Armtek (1988 rank: 301), acquired October 1, 1988.
[52] Owned by PacifiCorp (1988 Service 500 rank: U-21).
[53] Name changed from Ohio Mattress.
[54] Name changed from LPL Investment Group.
[55] Acquired by Cooper Industries (rank: 101), November 29, 1989.
[56] Name changed from George Banta.
[57] Figures include Fairchild Industries (1988 rank: 455), acquired August 18, 1989.
[58] Owned by L'Air Liquide (1988 International 500 rank: 185).

ARRIVALS AND DEPARTURES

NEWCOMERS TO THE 500

AMOSKEAG	280
ANACOMP	416
CITGO PETROLEUM	105
CONNER PERIPHERALS	417
CRYSTAL BRANDS	372
DELTA WOODSIDE INDUSTRIES	488
DOSKOCIL	319
DRESSER-RAND	378
DURACELL HOLDINGS	300
ESSEX GROUP	335
EXIDE	411
FIRST BRANDS	309
GITANO GROUP	452
GREAT AMER. MGMT. & INVESTMENT	247
HELENE CURTIS INDUSTRIES	449
HUDSON FOODS	453
IMC FERTILIZER GROUP	304
IMPERIAL HOLLY	434
INTERFACE	478
ITT RAYONIER	331
J&L SPECIALTY PRODUCTS	377
JPS TEXTILE GROUP	382
LA-Z-BOY CHAIR	496
LEAR SIEGLER SEATING	340
LINCOLN ELECTRIC	423
LSI LOGIC	499
LYONDELL PETROCHEMICAL	93
MARK IV INDUSTRIES	409
ORYX ENERGY	303
READER'S DIGEST ASSOCIATION	225
ST. JOE PAPER	436
STANHOME	483
TEREX	369
THERMO ELECTRON	472
TREDEGAR INDUSTRIES	445
TRI VALLEY GROWERS	406
UNIROYAL GOODRICH TIRE	195
WESTERN PUBLISHING GROUP	498
WICKES	107

RETURNED TO THE 500*

AFG INDUSTRIES (1987: 488)	435
CONE MILLS (1982: 398)	414
HARCOURT BRACE JOVANOVICH (1987: 268)	237
LEVI STRAUSS ASSOCIATES (1985: 148)	128
MARLEY (1980: 442)	461
NEWMONT MINING (1987: 450)	467
TESORO PETROLEUM (1977: 213)	396

DISPLACED FROM THE 500

	1988 SALES RANK
AMERICAN MAIZE-PRODUCTS	474
APOLLO COMPUTER [1]	423
ARMTEK [1]	301
ATARI	400
AVERY	479
BORDEN CHEMICALS & PLASTICS	472
BORG-WARNER [2]	142
BURLINGTON RESOURCES [2]	194
CHAMPION SPARK PLUG [1]	374
CHICAGO PACIFIC [1]	250
COLEMAN [3]	419
COMBUSTION ENGINEERING [2]	131
CONSTAR INTERNATIONAL	464
COOPER COS.	349
DR PEPPER/SEVEN-UP	491
EMHART [1]	155
FABERGÉ [4]	453
FAIRCHILD INDUSTRIES [1]	455
FARMERS UNION CENTRAL [2]	287
FIELDCREST CANNON [5]	274
FRUEHAUF [6]	196
GROW GROUP	495
J.P. INDUSTRIES	475
JEPSON [1]	467
MACMILLAN [7]	331
MEMOREX TELEX [3]	358
MINISCRIBE	444
MINSTAR	486
MOHASCO	373
NOXELL [1]	484
PACIFIC RESOURCES [8]	361
PENNWALT [9]	291
PILLSBURY [10]	70
ROBERTSON (H.H.)	494
ROBINS (A.H.) [1]	346
SHAKLEE [3]	432
SHELLER-GLOBE [1]	368
SIPCO [1]	141
SMITHKLINE BECKMAN [11]	97
SPRAGUE TECHNOLOGIES	487
SQUIBB [1]	166
TRIANGLE INDUSTRIES [12]	111
UNITED MERCHANTS & MFRS.	393
WARNER COMMUNICATIONS [1]	109
WILSON FOODS [1]	276
XIDEX [1]	427

* Figures in parentheses indicate year and sales rank the last time the company was listed.

[1] Acquired by another Industrial 500 company.

[2] No longer classified as industrial.

[3] Figures no longer made public.

[4] Consolidated into Unilever U.S. (rank 56).

[5] Consolidated into Amoskeag (rank 280).

[6] Acquired by Varity (1988 International 500 rank: 390) November 30, 1989.

[7] Acquired by Maxwell Communication (1988 International 500 rank: 381) November 19, 1988.

[8] Acquired by Broken Hill Proprietary (1988 International 500 rank: 104) May 11, 1989.

[9] Acquired by Elf Aquitaine (1988 International 500 rank: 25) August 4, 1989.

[10] Acquired by Grand Metropolitan (1988 International 500 rank: 76) January 3, 1989.

[11] Merged with Beecham Group (1988 International 500 rank: 188) July 26, 1989.

[12] Acquired by Pechiney (1988 International 500 rank: 83) December 22, 1988.

THE MONEY LOSERS

	SALES RANK	LOSS
RJR NABISCO HOLDINGS	24	$1,149,000,000
CONTROL DATA	153	680,400,000
UNISYS	43	639,300,000
WANG LABORATORIES	147	424,300,000
TIME WARNER	59	256,000,000
FORT HOWARD	336	239,400,000
PRIME COMPUTER	259	230,200,000
LONE STAR TECHNOLOGIES	432	191,400,000*
HENLEY GROUP	238	187,000,000*
HILLSBOROUGH HOLDINGS	236	186,300,000
MACK TRUCKS	215	185,400,000
NORTH AMERICAN PHILIPS	74	178,000,000
ANACOMP	416	170,800,000
WICKES	107	122,500,000
DATA GENERAL	290	119,700,000*
OWENS-ILLINOIS	125	108,100,000*
DURACELL HOLDINGS	300	105,900,000
HERCULES	145	81,300,000
NORTHROP	98	80,500,000
ENGELHARD	186	77,500,000
BRUNSWICK	159	71,300,000
ZENITH ELECTRONICS	169	68,400,000
REXENE	460	66,300,000
BORDEN	60	60,600,000
GAF	344	57,700,000
JPS TEXTILE GROUP	382	57,200,000
ALLEGHENY INT'L	358	54,900,000*
AMERICAN STANDARD	127	46,200,000*
INSILCO	398	43,400,000
NATIONAL GYPSUM	283	40,700,000*
MAXUS ENERGY	463	31,000,000*
TESORO PETROLEUM	396	30,500,000
LSI LOGIC	499	24,900,000
OHIO MATTRESS HOLDING	420	24,700,000
PERKIN-ELMER	324	24,200,000
IBC HOLDINGS	332	23,500,000*
NAT'L SEMICONDUCTOR	187	23,200,000
BURLINGTON HOLDINGS	199	23,000,000*
ALLIED PRODUCTS	492	22,400,000
WARNACO GROUP	446	20,800,000*
HARVARD INDUSTRIES	400	20,400,000
BRIGGS & STRATTON	364	20,000,000
WEST POINT-PEPPERELL	172	19,300,000
FINEVEST FOODS	422	19,000,000
EXIDE	411	16,600,000
SUDBURY	450	15,600,000
NORTEK	291	12,500,000
MARLEY	461	11,400,000
A.O. SMITH	339	9,600,000
LEAR SIEGLER SEATING	340	8,200,000
CUMMINS ENGINE	132	6,100,000*
FOXBORO	469	4,600,000
YORK HOLDINGS	278	2,300,000*
DWG	314	800,000

*Also lost money in 1988.

BY INDUSTRY

RANKED WITHIN INDUSTRY BY 11 MEASURES

INDUSTRY TABLE NUMBER / COMPANY 500 RANK	SALES				PROFITS				PROFITS AS % OF						EARNINGS PER SHARE		TOTAL RETURN TO INVESTORS				EMPLOYEES		
									SALES		ASSETS		EQUITY		1979-89 annual growth rate		1979-89 annual average		1989				
—	$ Mil.	Rank	% change from 1988	Rank	$ Mil.	Rank	% change from 1988	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	Number	Rank	% change from 1988
1 AEROSPACE 18 COMPANIES																							
BOEING 15	20,276	1	20	1	973	1	58	2	5	5	7	6	16	6	6	7	19	3	50	2	159,200	2	8
UNITED TECHNOLOGIES 17	19,766	2	9	4	702	3	7	5	4	8	5	8	15	8	5	8	14	7	36	3	201,400	1	8
MCDONNELL DOUGLAS 25	14,995	3	(1)	13	219	8	(37)	13	1	14	2	15	7	14	1	13	8	13	(16)	12	127,926	3	5
ROCKWELL INTERNATIONAL 29	12,633	4	6	6	735	2	(9)	7	6	3	8	4	18	5	12	3	19	2	13	6	108,715	4	(3)
ALLIED-SIGNAL 31	12,021	5	1	11	528	4	14	3	4	6	5	7	15	7	38	1	7	15	13	7	107,100	5	(2)
GENERAL DYNAMICS 44	10,053	6	5	7	293	6	(23)	12	3	11	4	9	14	9	7	5	6	16	(10)	11	102,200	6	(1)
LOCKHEED 45	9,932	7	(7)	16	2	16	(100)	15	0	16	0	16	0	16	(31)	16	15	6	(2)	10	82,500	7	(5)
TEXTRON 61	7,440	8	5	8	259	7	11	4	3	9	2	14	10	10	3	12	12	9	8	9	58,000	9	(3)
MARTIN MARIETTA 84	5,814	9	2	10	307	5	(14)	9	5	4	9	2	23	2	11	4	16	4	12	8	65,500	8	(3)
NORTHROP 98	5,200	10	(10)	17	(81)	17	(177)	16	(2)	17	(3)	17	(9)	17	—		6	17	(34)	17	41,000	10	(8)
GRUMMAN 129	3,559	11	(1)	14	67	11	(22)	11	2	13	3	12	8	13	6	6	8	14	(18)	13	28,900	11	(10)
SEQUA 207	2,073	12	6	5	56	13	(19)	10	3	12	3	11	8	12	4	11	13	8	28	5	17,700	12	10
GENCORP 211	2,001	13	(2)	15	210	9	200	1	10	1	17	1	135	1	21	2	12	10	(26)	14	15,100	13	(3)
HENLEY GROUP 238	1,693	14	(42)	18	(187)	18	—		(11)	18	(5)	18	(16)	18	—		—		—		11,400	16	70
SUNDSTRAND 243	1,666	15	13	3	114	10	—		7	2	8	5	20	3	4	9	9	12	33	4	13,700	14	(5)
CRANE 267	1,456	16	0	12	56	12	(11)	8	4	7	9	3	20	4	4	10	19	1	55	1	10,737	17	(1)
ROHR INDUSTRIES 337	1,048	17	16	2	33	14	3	6	3	10	3	10	8	11	(3)	15	11	11	(27)	16	12,000	15	9
KAMAN 385	802	18	5	9	9	15	(66)	14	1	15	2	13	5	15	0	14	16	5	(26)	15	6,424	18	1
TOTAL	132,427		6		4,296		(12)		—		—		—		—		—		—		1,169,502		2
MEDIAN	5,507		3		162		(12)		3		4		12		5		12		8		40,500		(2)
2 APPAREL 13 COMPANIES																							
LEVI STRAUSS ASSOC. 128	3,628	1	—		272	1	—		8	3	13	2	65	1	—		—		—		31,000	2	—
VF 173	2,540	2	1	10	176	2	1	6	7	4	9	3	21	6	19	2	33	2	14	8	45,000	1	5
CLAIBORNE (LIZ) 276	1,411	3	19	5	165	3	40	1	12	1	19	1	27	3	—		—		40	4	5,578	11	19
FRUIT OF THE LOOM 292	1,321	4	31	3	72	4	7	5	5	5	4	10	22	5	—		—		133	1	26,000	3	11
HARTMARX 294	1,312	5	12	8	17	11	(64)	9	1	12	2	12	5	12	(2)	6	19	6	(15)	11	23,500	4	4
CRYSTAL BRANDS 372	857	6	98	1	19	10	(6)	7	2	10	3	11	8	11	—		—		29	5	10,400	9	(7)
LESLIE FAY 390	786	7	15	6	26	8	16	3	3	8	7	7	16	8	—		—		8	9	4,300	12	23
KELLWOOD 402	754	8	8	9	34	6	11	4	4	7	7	5	18	7	21	1	26	3	(14)	10	15,000	5	6
RUSSELL 428	688	9	30	4	64	5	19	2	9	2	9	4	16	9	14	3	34	1	64	2	13,580	6	7
PHILLIPS-VAN HEUSEN 444	642	10	13	7	21	9	(31)	8	3	9	6	8	64	2	9	4	22	4	16	7	9,000	10	13
WARNACO GROUP 446	636	11	(3)	11	(21)	13	—		(3)	13	(4)	13	—		—		—		—		10,600	8	(9)
GITANO GROUP 452	626	12	35	2	31	7	—		5	6	7	6	24	4	—		—		42	3	—		—
OXFORD INDUSTRIES 489	566	13	(4)	12	10	12	—		2	11	5	9	9	10	6	5	21	5	25	6	11,240	7	(4)
TOTAL	15,767		74		865		94		—		—		—		—		—		—		205,198		44
MEDIAN	786		14		31		7		4		7		18		12		24		25		12,410		6
3 BEVERAGES 7 COMPANIES																							
PEPSICO 23	15,420	1	19	2	901	2	18	4	6	5	6	5	23	4	14	4	27	3	65	2	266,000	1	13
ANHEUSER-BUSCH 49	9,481	2	6	5	767	3	7	5	8	4	9	3	25	3	18	1	29	1	25	4	46,608	2	13
COCA-COLA 51	9,171	3	10	4	1,724	1	65	1	19	1	21	1	40	1	16	3	27	2	77	1	20,960	3	12
COCA-COLA ENTERPRISES 121	3,889	4	0	6	72	6	(53)	6	2	6	2	6	4	6	—		—		7	5	20,000	4	(9)
SEAGOLD VINEYARDS HLDG. 150	3,005	5	37	1	514	4	23	3	17	2	7	4	12	5	—		—		—		11,857	5	16
COORS (ADOLPH) 231	1,770	6	16	3	13	7	(72)	7	1	7	1	7	1	7	(16)	5	6	5	1	6	10,600	6	1
BROWN-FORMAN 343	1,012	7	(5)	7	144	5	40	2	14	3	14	2	28	2	17	2	24	4	57	3	5,500	7	(2)
TOTAL	43,747		11		4,136		28		—		—		—		—		—		—		381,525		11
MEDIAN	3,889		10		514		18		8		7		23		16		27		41		20,000		12
4 BUILDING MATERIALS 15 COMPANIES																							
OWENS-ILLINOIS 125	3,692	1	3	9	(108)	13	—		(3)	12	(2)	12	—		—		—		—		47,000	1	1
AMERICAN STANDARD 127	3,631	2	(2)	12	(46)	12	—		(1)	11	(1)	10	(63)	9	—		—		—		33,300	2	(2)
OWENS-CORNING FIBER. 149	3,021	3	7	6	172	3	(9)	6	6	7	9	3	—		1	5	23	1	13	5	18,300	4	4
CORNING 181	2,469	4	16	1	261	1	24	2	11	3	8	4	15	4	5	2	15	3	27	3	27,500	3	5
MANVILLE 197	2,228	5	1	10	197	2	—		9	4	8	5	20	1	(27)	8	(24)	8	28	2	17,000	5	(9)
USG 198	2,201	6	(22)	14	28	9	(78)	8	1	9	2	9	—		(12)	7	19	2	(20)	8	14,200	7	(7)
NORTON 257	1,535	7	9	4	105	4	10	4	7	5	9	2	17	3	0	6	11	6	27	4	16,600	6	3
LAFARGE 261	1,497	8	14	2	100	5	7	5	7	6	6	6	12	6	—		—		5	7	8,200	9	17

RANKED WITHIN INDUSTRY BY 11 MEASURES

INDUSTRY TABLE NUMBER / **COMPANY** 500 RANK	**SALES**				**PROFITS**				**PROFITS AS % OF**						**EARNINGS PER SHARE**		**TOTAL RETURN TO INVESTORS**				**EMPLOYEES**		
									SALES		ASSETS		EQUITY		1979-89 annual growth rate		1979-89 annual average		1989				
	$ Mil.	Rank	% change from 1988	Rank	$ Mil.	Rank	% change from 1988	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	Number	Rank	% change from 1988
CERTAINTEED 282	1,365	9	8	5	30	8	(46)	7	2	8	3	8	4	7	2	4	—		—		8,200	9	2
NATIONAL GYPSUM 283	1,364	10	12	3	(41)	11	—		(3)	13	(3)	13	(112)	10	—		—		—		6,400	10	2
NORTEK 291	1,323	11	(7)	13	(13)	10	(164)	9	(1)	10	(1)	11	(6)	8	—		0	7	(30)	9	9,627	8	(10)
ANCHOR GLASS 338	1,040	12	6	7	—		—		—		—		—		—		—		—		—		—
CALMAT 426	690	13	5	8	78	6	39	1	11	2	10	1	15	5	5	3	11	4	9	6	2,910	12	(12)
AFG INDUSTRIES 435	666	14	—		—		—		—		—		—		—		—		—		—		—
SOUTHDOWN 473	593	15	(1)	11	68	7	20	3	11	1	6	7	19	2	7	1	11	5	38	1	3,300	11	(6)
TOTAL	27,315		(5)		832		—		—		—		—		—		—		—		212,537		(10)
MEDIAN	1,497		6		68		7		2		3		0		2		11		13		15,400		1
5 CHEMICALS 49 COMPANIES																							
DU PONT (E.I.) DE NEMOURS 9	35,209	1	8	18	2,480	2	13	10	7	19	7	22	16	20	5	17	18	13	45	7	145,787	1	3
DOW CHEMICAL 20	17,730	2	6	21	2,487	1	4	21	14	5	11	8	31	5	12	4	18	11	26	15	62,111	2	12
UNION CARBIDE 53	8,744	3	5	27	573	5	(13)	28	7	23	7	23	24	9	4	19	16	18	(6)	30	45,987	5	5
MONSANTO 55	8,681	4	5	29	679	4	15	9	8	16	8	18	17	17	8	9	20	7	45	5	42,179	6	(8)
GRACE (W.R.) 76	6,115	5	(1)	39	253	10	8	12	4	32	5	30	8	31	2	21	11	27	32	13	48,300	4	6
HOECHST CELANESE 77	6,016	6	6	22	267	9	7	15	4	30	4	31	8	29	—		—		—		22,500	12	(3)
HANSON IND. NA 79	5,933	7	(9)	43	761	3	153	1	13	6	13	5	31	6	—		—		—		59,181	3	(26)
PPG INDUSTRIES 83	5,825	8	4	33	465	6	(1)	24	8	15	8	14	20	12	9	6	24	4	2	27	35,500	7	(2)
BAYER USA 91	5,425	9	15	4	154	18	24	3	3	34	3	34	8	30	—		—		—		29,616	9	14
BASF 92	5,422	10	8	17	90	30	(40)	34	2	38	3	38	7	32	—		—		—		21,557	13	(1)
LYONDELL PETROCHEM. 93	5,374	11	14	5	374	7	(31)	31	7	20	30	3	—	1	—		—		—		2,070	41	3
AMERICAN CYANAMID 106	4,825	12	5	26	292	8	(4)	26	6	25	6	28	13	27	6	15	17	15	18	20	35,384	8	0
FMC 133	3,461	13	5	24	136	20	6	18	4	33	5	29	—		(2)	24	25	3	10	24	24,110	10	(1)
HERCULES 145	3,121	14	11	8	(81)	45	(168)	44	(3)	42	(2)	42	(4)	39	—		12	26	(8)	31	23,290	11	3
ETHYL 162	2,755	15	1	36	231	12	0	23	8	12	4	32	26	8	12	5	28	2	37	12	5,500	31	(47)
AIR PRODS. & CHEM. 166	2,862	16	9	13	222	13	4	20	8	13	7	24	15	22	9	8	13	24	20	17	14,100	18	6
ROHM & HAAS 167	2,661	17	5	28	176	15	(23)	29	7	22	7	21	13	24	7	12	20	8	5	26	13,132	19	6
QUANTUM CHEMICAL 168	2,637	18	(19)	47	247	11	(35)	33	9	11	8	15	—		9	7	14	20	(44)	37	10,000	22	(9)
OLIN 175	2,530	19	10	12	124	21	27	2	5	28	7	25	19	14	7	11	18	12	22	16	15,400	17	(6)
GOODRICH (B.F.) 176	2,521	20	0	37	172	16	(12)	27	7	21	8	19	13	23	3	20	13	22	(17)	34	11,882	20	(3)
ENGELHARD 186	2,403	21	2	34	(77)	44	(222)	45	(3)	43	(6)	44	(12)	40	—		—		15	22	8,100	24	(2)
VALHI 188	2,381	22	6	23	103	28	20	7	4	31	3	35	36	4	18	3	15	19	51	3	16,500	16	2
MORTON THIOKOL 194	2,260	23	(2)	40	—		—		—		—		—		—		—		—		20,500	14	0
SHERWIN-WILLIAMS 203	2,130	24	9	15	109	26	8	14	5	26	8	17	16	18	20	1	30	1	30	11	16,726	15	1
CABOT 216	1,944	25	16	3	18	38	(70)	39	1	39	1	39	4	36	(13)	28	13	25	(2)	29	5,500	31	7
GT. AMER. MGMT. & INVST. 247	1,643	26	34	2	2	40	(75)	40	0	41	0	41	1	38	(28)	30	22	5	32	14	11,700	21	10
WITCO 252	1,609	27	1	35	35	36	(62)	38	2	35	3	36	6	34	(3)	26	16	16	15	21	7,385	27	(3)
HIMONT 253	1,600	28	(6)	42	—		—		—		—		—		—		—		40	9	4,000	39	11
DOW CORNING 254	1,575	29	7	20	163	17	8	13	10	10	10	12	19	13	—		—		—		7,600	26	4
INSPIRATION RESOURCES 274	1,420	30	4	31	25	37	(40)	35	2	37	3	37	6	35	(15)	29	—		(10)	32	4,730	36	13
IMC FERTILIZER GROUP 304	1,233	31	14	6	137	19	23	4	11	8	8	16	18	15	—		—		(21)	36	5,900	30	7
LUBRIZOL 306	1,228	32	10	11	94	29	(33)	32	8	18	10	10	6	33	1	22	8	29	9	25	5,307	34	11
HANNA (M.A.) 322	1,114	33	9	14	87	31	4	19	8	17	8	13	16	19	(2)	25	4	30	43	8	6,701	29	(28)
GEORGIA GULF 323	1,107	34	4	30	182	14	(1)	25	17	2	41	1	58	3	—		—		18	18	1,380	45	(1)
FERRO 327	1,102	35	9	16	50	33	7	16	5	29	7	20	16	21	5	16	18	10	18	19	8,045	25	(1)
NALCO CHEMICAL 329	1,004	36	10	9	120	23	13	11	11	9	13	6	27	7	7	14	16	17	45	6	5,400	32	2
GAF 344	1,011	37	3	25	(58)	42	(157)	43	(6)	44	(3)	43	—		—		—		—		4,542	37	(2)
ARISTECH CHEMICAL 348	998	38	(6)	41	82	32	(56)	37	8	14	11	7	30	11	—		—		13	23	1,870	42	10
INT'L MIN. & CHEM. 352	983	39	(33)	48	117	25	3	22	12	7	6	27	13	26	0	23	9	28	30	10	6,900	28	—
DEXTER 371	859	40	4	32	43	34	21	6	5	27	6	26	13	25	5	18	13	23	2	28	5,400	33	—
CF INDUSTRIES 373	856	41	(11)	44	—		—		—		—		—		—		—		—		1,470	44	(3)
GREAT LAKES CHEMICAL 379	848	42	38	1	123	22	19	8	14	4	11	9	21	10	18	2	19	9	64	2	5,000	35	72
VISTA CHEMICAL 392	779	43	(0)	38	120	24	6	17	15	3	21	4	—		—		—		(19)	35	1,750	43	3
FULLER (H.B.) 403	753	44	10	10	16	39	(26)	30	2	36	3	33	8	28	7	13	17	14	(16)	33	5,400	33	4
REXENE 460	613	45	(15)	45	(66)	43	(151)	42	(11)	45	(12)	45	—		—		—		(66)	39	1,020	46	(21)
TYLER 468	602	46	(40)	49	1	41	(93)	41	0	40	1	40	1	37	(6)	27	21	6	106	1	4,386	38	(29)
STERLING CHEMICALS 479	581	47	(17)	46	104	27	(51)	36	18	1	32	2	94	2	—		—		(48)	38	926	47	9
NCH 490	566	48	13	7	36	35	21	5	6	24	10	11	18	16	7	10	13	21	47	4	9,757	23	9
BIG THREE INDUSTRIES 491	565	49	8	19	—		—		—		—		—		—		—		—		2,400	40	—

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INDUSTRY TABLE NUMBER / COMPANY 500 RANK	SALES $ Mil.	Rank	SALES % change from 1988	Rank	PROFITS $ Mil.	Rank	PROFITS % change from 1988	Rank	PROFITS AS % OF SALES %	Rank	PROFITS AS % OF ASSETS %	Rank	PROFITS AS % OF EQUITY %	Rank	EARNINGS PER SHARE 1979-89 annual growth rate %	Rank	TOTAL RETURN TO INVESTORS 1979-89 annual average %	Rank	TOTAL RETURN TO INVESTORS 1989 %	Rank	EMPLOYEES Number	Rank	EMPLOYEES % change from 1988
TOTAL	173,509		7		11,680		(6)		–		–		–		–		–		–		854,259		–
MEDIAN	1,944		5		120		0		6		7		13		6		17		18		8,100		1
6 COMPUTERS (INCLUDES OFFICE EQUIPMENT) 22 COMPANIES																							
IBM 4	63,438	1	5	14	3,758	1	(35)	14	6	11	5	13	10	15	2	9	8	9	(19)	14	383,220	1	(1)
DIGITAL EQUIPMENT 27	12,866	2	12	10	1,073	2	(18)	12	8	6	10	3	13	9	15	5	9	8	(17)	11	125,800	2	4
HEWLETT-PACKARD 33	11,899	3	21	7	829	3	2	8	7	9	8	8	15	6	15	6	13	6	(11)	9	95,000	3	9
UNISYS 43	10,097	4	2	16	(639)	21	(194)	17	(6)	18	(6)	18	(16)	18	–		(1)	10	(45)	21	82,300	4	(12)
NCR 78	5,956	5	(1)	18	412	5	(6)	9	7	10	9	6	21	3	9	8	16	5	13	6	56,000	5	(7)
APPLE COMPUTER 96	5,284	6	30	4	454	4	13	4	9	4	17	1	31	1	–		–		(12)	10	12,068	11	12
WANG LABORATORIES 147	3,078	7	0	17	(424)	20	(558)	18	(14)	20	(16)	20	(38)	20	–		(4)	12	(41)	19	28,334	8	(10)
PITNEY BOWES 152	2,959	8	11	11	253	7	4	7	9	5	5	15	18	5	12	7	23	1	14	5	31,404	6	7
CONTROL DATA 153	2,952	9	(19)	21	(680)	22	–	20	(23)	22	(37)	21	(165)	21	–		(3)	11	(8)	8	18,000	9	(46)
COMPAQ COMPUTER 157	2,876	10	39	3	333	6	31	2	12	1	16	2	28	2	–		–		33	4	9,500	14	46
AMDAHL 201	2,154	11	20	8	153	8	(32)	13	7	8	7	10	13	10	18	4	10	7	(29)	15	8,200	17	(1)
SUN MICROSYSTEMS 232	1,769	12	68	2	61	12	(8)	10	3	15	5	14	9	16	–		–		4	7	10,200	12	44
TANDEM COMPUTERS 246	1,644	13	25	6	118	9	25	3	7	7	7	9	12	14	28	1	21	2	36	3	9,548	13	11
PRIME COMPUTER 259	1,518	14	(5)	20	(230)	19	–	19	(15)	21	–		–		–		–		–		–		–
SEAGATE TECHNOLOGY 281	1,382	15	9	12	0	17	(100)	16	0	17	0	17	0	17	–		–		74	1	29,000	7	(3)
DATA GENERAL 290	1,324	16	(3)	19	(120)	18	–		(9)	19	(12)	19	(23)	19	–		(8)	13	(32)	17	13,740	10	(11)
STORAGE TECHNOLOGY 342	1,014	17	16	9	48	13	8	6	5	13	5	12	14	8	(19)	11	(24)	15	(33)	18	9,100	15	7
SCI SYSTEMS 351	990	18	28	5	21	16	10	5	2	16	3	16	12	13	26	2	19	3	(43)	20	8,578	16	(4)
INTERGRAPH 365	874	19	9	13	80	11	(10)	11	9	3	10	4	13	12	–		–		(18)	13	8,200	17	12
AM INTERNATIONAL 374	855	20	(34)	22	31	15	–		4	14	5	11	13	11	(10)	10	(13)	14	(18)	12	7,523	18	0
CRAY RESEARCH 391	785	21	4	15	89	10	(43)	15	11	2	9	5	15	7	25	3	18	4	(31)	16	4,708	20	(10)
CONNER PERIPHERALS 417	709	22	176	1	41	14	110	1	6	12	9	7	21	4	–		–		67	2	5,000	19	–
TOTAL	136,424		5		5,660		(47)		–		–		–		–		–		–		955,423		(8)
MEDIAN	1,961		10		70		(9)		6		5		13		15		9		(17)		12,904		(1)
7 ELECTRONICS 44 COMPANIES																							
GENERAL ELECTRIC 5	55,264	1	12	15	3,939	1	16	13	7	9	3	33	19	10	11	9	22	5	49	9	292,000	1	(2)
WESTINGHOUSE ELECTRIC 28	12,844	2	3	34	922	2	12	15	7	8	5	25	21	5	–		27	2	46	11	121,963	2	2
MOTOROLA 48	9,620	3	17	8	498	6	12	16	5	19	6	16	13	27	9	17	15	13	41	13	104,000	3	2
RAYTHEON 52	8,796	4	7	23	529	5	8	21	6	13	10	8	22	4	10	12	11	23	7	24	77,600	4	2
TRW 62	7,406	5	6	25	263	11	1	23	4	27	5	23	15	20	4	25	14	14	23	18	74,300	5	2
HONEYWELL 65	7,142	6	1	35	604	3	–		8	6	11	2	31	3	9	14	11	19	50	8	65,312	8	(17)
EMERSON ELECTRIC 67	7,071	7	6	24	588	4	11	19	8	7	11	4	19	9	9	16	17	10	33	16	72,600	7	3
TEXAS INSTRUMENTS 71	6,592	8	5	30	292	8	(20)	32	4	21	6	18	12	28	2	28	4	28	(11)	32	73,854	6	(2)
WHIRLPOOL 73	6,289	9	42	3	187	13	99	5	3	32	3	30	13	26	6	19	19	8	38	14	39,411	13	35
NORTH AMERICAN PHILIPS 74	6,203	10	14	11	(178)	43	(325)	38	(3)	40	(5)	40	(13)	39	–		–		–		56,800	10	(1)
LITTON INDUSTRIES 100	5,130	11	5	29	178	14	7	22	3	28	3	31	14	23	5	22	9	25	7	22	50,700	11	(8)
COOPER INDUSTRIES 101	5,129	12	20	5	268	10	19	11	5	18	4	28	10	31	3	26	14	14	53	6	58,100	9	25
TELEDYNE 109	4,664	13	6	26	259	12	(34)	34	6	17	6	12	11	30	5	23	18	9	4	27	43,200	12	(1)
INTEL 137	3,281	14	14	12	391	7	(14)	29	12	1	10	9	15	19	13	6	12	18	45	12	22,200	19	7
MAYTAG 146	3,089	15	62	2	131	15	(17)	31	4	22	5	22	3	35	4	24	19	7	5	26	26,019	17	101
AMP 160	2,821	16	6	28	281	9	(12)	27	10	4	11	3	17	14	9	15	15	12	3	28	24,400	18	1
ZENITH ELECTRONICS 169	2,611	17	(3)	38	(68)	41	(685)	39	(3)	39	(7)	43	(17)	40	–		4	29	(33)	35	32,000	16	(11)
HARRIS 180	2,477	18	20	6	21	34	(79)	35	1	36	1	36	2	36	(14)	30	3	30	36	17	35,100	14	55
NAT'L SEMICONDUCTOR 187	2,400	19	(3)	39	(23)	38	(137)	36	(1)	37	(2)	37	(3)	37	–		(1)	32	(28)	34	32,200	15	(15)
GENERAL SIGNAL 219	1,925	20	9	19	78	22	211	1	4	25	6	20	16	17	2	29	6	26	5	25	19,377	21	2
SQUARE D 234	1,723	21	4	33	102	16	(14)	30	6	14	7	13	18	13	3	27	14	15	15	19	19,300	22	(7)
E-SYSTEMS 248	1,633	22	13	13	83	20	11	18	5	20	10	10	15	21	13	7	16	11	7	24	17,920	23	7
NAT'L SERVICE IND. 255	1,540	23	9	21	95	17	10	20	6	12	11	5	15	18	9	13	24	4	34	15	20,800	20	2
LORAL 260	1,500	24	4	32	88	18	18	12	6	15	6	19	17	15	16	3	11	22	(6)	30	9,700	30	(29)
GENERAL INSTRUMENT 263	1,481	25	13	14	86	19	29	8	6	16	7	15	14	24	6	18	10	24	53	5	15,900	24	3
RELIANCE ELECTRIC 275	1,411	26	(9)	41	49	25	104	4	3	29	4	26	327	1	–		–		–		13,000	26	(25)
VARIAN ASSOCIATES 287	1,345	27	15	9	32	31	14	14	2	34	3	32	7	33	10	11	5	27	(22)	33	12,100	28	3
DURACELL HOLDINGS 300	1,254	28	–		(106)	42	–		(8)	43	(5)	41	(46)	41	–		–		–		8,500	32	–
ADVANCED MICRO DEV. 325	1,105	29	(2)	37	46	26	138	3	4	23	4	27	7	34	10	10	3	31	(9)	31	13,000	26	(12)
WESTERN DIGITAL 349	984	30	29	4	34	29	(21)	33	3	30	6	21	11	29	–		11	21	(43)	37	6,394	34	(3)

BY INDUSTRY

RANKED WITHIN INDUSTRY BY 11 MEASURES

INDUSTRY TABLE NUMBER / **COMPANY** 500 RANK	**SALES**				**PROFITS**				**PROFITS AS % OF**						**EARNINGS PER SHARE**		**TOTAL RETURN TO INVESTORS**				**EMPLOYEES**		
									SALES		ASSETS		EQUITY		1979-89 annual growth rate		1979-89 annual average		1989				
	$ Mil.	Rank	% change from 1988	Rank	$ Mil.	Rank	% change from 1988	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	Number	Rank	% change from 1988
MAGNETEK 355	962	31	6	27	18	36	(6)	25	2	35	3	34	19	12	—		—		—		14,131	25	7
ALLEGHENY INT'L 358	950	32	(2)	36	(55)	40	—		(6)	42	(6)	42	—		—		(35)	33	(83)	38	11,800	29	(3)
PITTWAY 375	854	33	11	18	33	30	(12)	28	4	26	5	24	9	32	—		—		—		8,700	31	12
VALMONT INDUSTRIES 388	790	34	19	7	21	35	35	6	3	33	6	17	21	6	16	2	29	1	69	4	4,200	40	9
MARK IV INDUSTRIES 409	742	35	84	1	23	33	34	7	3	31	2	35	20	7	29	1	—		91	2	12,800	27	151
EXIDE 411	725	36	11	17	(17)	37	(183)	37	(2)	38	(3)	39	—		—		—		—		5,600	37	—
HUBBELL 430	684	37	11	16	79	21	11	17	12	2	14	1	19	11	11	8	24	3	46	10	5,320	38	3
LPL TECHNOLOGIES 431	680	38	5	31	28	32	201	2	4	24	4	29	62	2	—		—		140	1	7,393	33	10
SSMC 447	635	39	(5)	40	—		—		—		—		—		—		—		51	7	—		—
AMETEK 475	588	40	(16)	42	38	27	25	9	7	11	7	14	20	8	5	20	13	16	9	21	5,900	36	13
MOLEX 484	576	41	15	10	58	23	(3)	24	10	3	11	6	13	25	15	4	21	6	1	29	6,271	35	6
THOMAS & BETTS 493	562	42	9	20	54	24	(8)	26	10	5	10	11	16	16	5	21	13	17	10	20	5,000	39	6
SCIENTIFIC-ATLANTA 497	552	43	9	22	36	28	22	10	7	10	10	7	14	22	13	5	11	20	82	3	3,420	42	(1)
LSI LOGIC 499	547	44	—		(25)	39	—		(5)	41	(3)	38	(8)	38	—		—		(34)	36	3,706	41	—
TOTAL	184,686		10		9,960		8		—		—		—		—		—		—		1,551,991		3
MEDIAN	1,586		9		78		10		4		5		14		9		13		12.6		19,339		2
8 FOOD 50 COMPANIES																							
PHILIP MORRIS 7	39,069	1	51	2	2,946	1	26	12	8	5	8	17	31	7	20	3	30	8	69	6	157,000	1	1
OCCIDENTAL PETROLEUM 16	20,068	2	3	37	285	10	(6)	24	1	30	1	33	5	32	(18)	26	10	27	28	17	53,500	6	2
RJR NABISCO HOLDINGS 24	15,224	3	(10)	45	(1,149)	38	(182)	34	(8)	38	(3)	36	(93)	37	—		—		—		48,000	8	(59)
SARA LEE 34	11,738	4	13	17	410	7	26	11	3	22	6	24	21	17	15	9	32	5	64	8	100,000	2	17
CONAGRA 36	11,340	5	20	7	198	12	28	10	2	29	5	28	21	19	15	8	35	3	51	12	48,131	7	12
ARCHER DANIELS 57	8,057	6	19	9	425	4	20	16	5	12	9	11	14	28	18	5	16	25	75	5	10,214	23	13
BORDEN 60	7,593	7	5	34	(61)	37	(119)	33	(1)	35	(1)	35	(4)	35	—		30	9	19	18	46,500	9	0
RALSTON PURINA 69	6,712	8	9	24	423	5	9	21	6	11	10	8	49	2	18	4	27	16	3	27	56,219	4	(1)
HEINZ (H.J.) 82	5,832	9	11	19	440	3	14	18	8	4	11	6	25	10	15	7	31	6	54	10	36,200	12	(7)
GENERAL MILLS 85	5,798	10	0	43	414	6	46	6	7	7	14	3	57	1	13	14	25	17	44	15	83,837	3	13
QUAKER OATS 87	5,724	11	7	28	203	11	(21)	27	4	21	6	23	18	23	8	21	26	13	11	21	31,700	14	1
CAMPBELL SOUP 88	5,710	12	17	10	13	32	(95)	32	0	34	0	34	1	34	(21)	27	28	12	90	3	55,412	5	15
CPC INTERNATIONAL 102	5,129	13	9	23	328	8	13	19	6	10	9	12	27	9	8	20	23	20	46	13	33,542	13	5
KELLOGG 108	4,666	14	7	29	470	2	(2)	23	10	3	14	4	29	8	14	10	27	14	8	23	17,268	17	(1)
BEATRICE 111	4,498	15	(40)	49	325	9	(39)	30	7	6	9	13	40	3	—		—		—		16,400	18	(17)
WHITMAN 118	4,024	16	3	40	191	13	(18)	25	5	15	5	26	21	18	(5)	25	23	19	(17)	32	25,188	15	(1)
UNITED BRANDS 123	3,851	17	10	22	68	20	12	20	2	28	4	29	15	26	11	16	19	24	8	24	44,000	10	5
AGWAY 140	3,235	18	(11)	46	—		—		—		—		—		—		—		—		15,100	19	(10)
FARMLAND INDUSTRIES 151	2,977	19	6	32	—		—		—		—		—		—		—		—		6,275	31	8
TYSON FOODS 174	2,538	20	31	3	101	17	24	13	4	16	4	30	22	15	26	1	43	2	44	14	42,000	11	62
LAND O'LAKES 183	2,442	21	4	36	—		—		—		—		—		—		—		—		5,836	33	(13)
HERSHEY FOODS 185	2,421	22	(5)	44	171	14	(20)	26	7	8	9	10	15	24	12	15	29	10	41	16	11,800	22	(2)
HORMEL (GEO. A.) 190	2,341	23	2	42	70	19	16	17	3	25	10	9	15	25	9	19	27	15	56	9	8,000	27	0
CENTRAL SOYA 192	2,318	24	6	33	15	31	33	9	1	32	2	32	4	33	—		—		—		3,474	38	3
HOLLY FARMS 214	1,964	25	24	6	44	22	21	15	2	26	5	25	10	30	2	24	—		—		18,978	16	27
INT'L MULTIFOODS 224	1,883	26	11	20	35	26	6	22	2	27	5	27	12	29	5	22	15	26	9	22	9,015	26	0
MID-AMERICA DAIRYMEN 228	1,798	27	9	26	—		—		—		—		—		—		—		—		4,000	36	—
DEAN FOODS 240	1,686	28	9	25	60	21	41	8	4	20	10	7	21	20	17	6	33	4	13	20	7,500	30	6
MCCORMICK 299	1,263	29	7	31	136	15	218	3	11	1	16	2	39	4	22	2	21	21	88	4	7,554	29	(1)
GOLD KIST 308	1,216	30	17	11	—		—		—		—		—		—		—		—		9,500	24	4
GERBER PRODUCTS 312	1,190	31	2	41	81	18	284	2	7	9	12	5	25	12	11	17	30	7	66	7	14,691	21	0
DOSKOCIL 319	1,148	32	350	1	—		—		—		—		—		—		—		(10)	31	—		—
SAVANNAH FOODS & IND. 328	1,097	33	20	8	41	23	105	4	4	17	9	14	24	13	—		49	1	204	1	1,815	47	9
IBC HOLDINGS 332	1,080	34	26	5	(23)	36	—		(2)	36	(4)	37	—		—		—		—		14,800	20	1
WRIGLEY (WM. JR.) 345	1,011	35	13	15	106	16	22	14	11	2	21	1	31	6	13	13	21	22	53	11	5,750	34	5
AG PROCESSING 359	949	36	4	35	—		—		—		—		—		—		—		—		608	48	4
OCEAN SPRAY 366	873	37	14	13	—		—		—		—		—		—		—		—		2,200	43	13
UNIVERSAL FOODS 380	837	38	16	12	40	24	45	7	5	14	8	15	20	22	13	12	24	18	6	26	5,700	35	29
FLOWERS INDUSTRIES 389	789	39	7	30	30	27	(32)	28	4	18	7	22	14	27	10	18	28	11	2	28	9,200	25	1
SMITHFIELD FOODS 395	775	40	(15)	47	11	33	(35)	29	1	31	7	19	25	11	14	11	20	23	(23)	33	3,900	37	(5)
AMSTAR 399	766	41	(28)	48	38	25	—		5	13	7	18	37	5	—		—		—		2,000	45	(57)
TRI VALLEY GROWERS 406	747	42	12	18	—		—		—		—		—		—		—		—		3,018	39	8

RANKED WITHIN INDUSTRY BY 11 MEASURES

INDUSTRY TABLE NUMBER / COMPANY 500 RANK	SALES				PROFITS				PROFITS AS % OF						EARNINGS PER SHARE		TOTAL RETURN TO INVESTORS				EMPLOYEES		
									SALES		ASSETS		EQUITY		1979-89 annual growth rate		1979-89 annual average		1989				
	$ Mil.	Rank	% change from 1988	Rank	$ Mil.	Rank	% change from 1988	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	Number	Rank	% change from 1988
FINEVEST FOODS 422	701	43	10	21	(19)	35	(658)	35	(3)	37	(8)	38	(47)	36	–		–		6	25	2,750	41	(10)
RICELAND FOODS 429	684	44	8	27	–		–		–		–		–		–		–		–		2,041	44	14
IMPERIAL HOLLY 434	668	45	–		22	29	–		3	23	7	20	22	16	–		–		140	2	2,500	42	–
PILGRIM'S PRIDE 438	663	46	31	4	20	30	–	1	3	24	7	21	23	14	–		–		15	19	7,800	28	15
HUDSON FOODS 453	623	47	13	14	23	28	54	5	4	19	8	16	21	21	–		–		0	29	6,262	32	14
THORN APPLE VALLEY 459	613	48	3	39	2	34	(57)	31	0	33	2	31	8	31	2	23	(3)	28	(10)	30	2,900	40	10
PRAIRIE FARMS DAIRY 481	578	49	13	16	–		–		–		–		–		–		–		–		1,829	46	(9)
SUN-DIAMOND GROWERS 486	572	50	3	38	–		–		–		–		–		–		–		–		2,500	42	–
TOTAL	209,480		24		6,933		2		–		–		–		–		–		–		1,104,407		4
MEDIAN	1,924		9		69		14		3		5		15		13		27		28		9,350		3

9 FOREST PRODUCTS 37 COMPANIES

INDUSTRY TABLE NUMBER / COMPANY 500 RANK	SALES				PROFITS				PROFITS AS % OF						EARNINGS PER SHARE		TOTAL RETURN TO INVESTORS				EMPLOYEES		
									SALES		ASSETS		EQUITY		1979-89 annual growth rate		1979-89 annual average		1989				
	$ Mil.	Rank	% change from 1988	Rank	$ Mil.	Rank	% change from 1988	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	Number	Rank	% change from 1988
INTERNATIONAL PAPER 35	11,378	1	19	6	864	1	15	10	8	16	7	17	17	19	3	23	17	16	26	13	63,500	1	14
GEORGIA-PACIFIC 41	10,171	2	7	22	661	2	42	3	6	20	9	9	24	3	9	13	10	26	35	8	44,000	3	–
WEYERHAEUSER 42	10,106	3	1	35	341	6	(40)	33	3	33	2	34	8	34	(5)	27	7	27	15	18	45,214	2	(4)
JAMES RIVER 81	5,902	4	16	8	255	11	22	5	4	30	5	30	11	31	12	8	19	11	1	26	36,000	5	(8)
KIMBERLY-CLARK 86	5,777	5	7	20	424	4	12	13	7	18	9	12	20	9	5	22	28	4	31	11	39,664	4	3
STONE CONTAINER 94	5,361	6	43	2	286	9	(16)	27	5	24	5	31	21	7	24	1	22	10	(23)	31	32,600	6	57
CHAMPION INTERNATIONAL 97	5,254	7	2	31	432	3	(5)	18	8	15	6	25	12	28	(0)	26	6	28	3	24	29,600	7	(3)
SCOTT PAPER 104	5,066	8	7	18	376	5	(6)	21	7	17	7	20	18	12	11	9	22	8	25	14	29,400	8	9
MEAD 110	4,647	9	4	26	216	13	(39)	32	5	28	6	24	13	27	2	24	16	18	(4)	28	21,800	9	4
BOISE CASCADE 112	4,338	10	6	25	268	10	(7)	22	6	22	6	21	17	18	5	21	13	23	11	20	19,539	10	(1)
GREAT NORTH. NEKOOSA 122	3,863	11	8	16	321	7	(6)	20	8	14	8	15	18	13	12	6	24	7	61	1	19,500	11	(1)
JEFFERSON SMURFIT 154	2,936	12	134	1	36	34	(75)	34	1	35	1	35	–		–		–		–		16,800	13	121
UNION CAMP 161	2,761	13	4	27	299	8	1	17	11	6	9	11	17	17	8	15	15	19	11	19	18,646	12	1
WESTVACO 193	2,287	14	7	19	233	12	16	9	10	7	8	14	16	24	10	11	17	15	8	22	14,960	15	1
TEMPLE-INLAND 204	2,124	15	1	34	207	14	4	16	10	11	3	33	16	21	–		–		49	5	12,000	18	9
LOUISIANA-PACIFIC 208	2,035	16	7	23	193	16	(36)	31	9	13	9	8	16	22	5	19	13	21	57	2	13,000	16	–
WILLAMETTE INDUSTRIES 223	1,892	17	10	12	191	17	19	7	10	9	12	4	21	8	11	10	17	14	28	12	9,370	20	0
AVERY INTERNATIONAL 233	1,732	18	10	13	87	24	11	14	5	27	8	16	16	23	13	5	25	6	45	7	11,715	19	2
SONOCO PRODUCTS 244	1,656	19	4	29	104	22	8	15	6	21	10	6	20	10	15	4	28	3	10	21	15,049	14	1
BOWATER 268	1,450	20	3	30	145	19	(12)	26	10	10	6	22	15	25	–		–		5	23	5,100	27	2
ESSELTE BUSINESS SYS. 272	1,433	21	2	32	54	28	(8)	23	4	31	5	28	11	32	–		–		56	3	12,750	17	(2)
FEDERAL PAPER BOARD 295	1,311	22	17	7	205	15	43	2	16	2	11	5	25	2	20	2	17	13	32	9	6,600	25	25
POTLATCH 301	1,241	23	14	10	137	20	22	6	11	5	8	13	16	20	7	16	14	20	22	15	7,371	24	2
FIRST BRANDS 309	1,207	24	29	4	61	27	–		5	26	7	19	50	1	–		–		–		3,359	33	(9)
PENTAIR 317	1,164	25	41	3	36	33	(9)	25	3	34	5	29	12	29	5	20	19	12	(10)	30	8,500	21	(2)
ITT RAYONIER 331	1,082	26	7	21	128	21	108	1	12	4	10	7	17	15	–		–		–		3,100	35	–
BEMIS 333	1,077	27	1	36	47	30	19	8	4	29	7	18	18	14	9	12	31	1	51	4	7,524	22	(4)
FORT HOWARD 336	1,054	28	(43)	37	(239)	37	–		(23)	37	–		–		–		–		–		3,000	36	–
CONSOLIDATED PAPERS 353	978	29	9	14	168	18	12	12	17	1	15	2	20	11	12	7	26	5	31	10	4,563	29	2
CHESAPEAKE 384	815	30	15	9	48	29	(8)	24	6	23	6	23	15	26	8	14	13	22	3	25	4,945	28	17
DENNISON MFG. 394	777	31	8	17	29	35	(22)	29	4	32	5	26	11	30	0	25	13	24	(1)	27	7,500	23	(1)
GAYLORD CONTAINER 407	746	32	11	11	39	32	(6)	19	5	25	4	32	22	6	–		–		(45)	32	4,100	30	5
LONGVIEW FIBRE 421	701	33	7	24	67	26	(31)	30	9	12	9	10	17	16	6	18	12	25	(7)	29	3,500	31	1
ST. JOE PAPER 436	663	34	2	33	67	25	(19)	28	10	8	5	27	9	33	–		–		–		5,500	26	(2)
POPE & TALBOT 457	619	35	20	5	44	31	37	4	7	19	12	3	22	5	6	17	17	17	47	6	3,181	34	2
GLATFELTER (P.H.) 458	613	36	8	15	93	23	13	11	15	3	17	1	24	4	16	3	29	2	17	17	3,447	32	0
TAMBRANDS 476	583	37	4	28	2	36	(98)	35	0	36	0	36	1	35	(27)	28	22	9	22	16	4,100	30	(13)
TOTAL	106,799		14		6,923		(3)		–		–		–		–		–		–		590,497		–
MEDIAN	1,656		7		145		(5)		7		7		17		8		17		20		11,858		10

10 FURNITURE 9 COMPANIES

INDUSTRY TABLE NUMBER / COMPANY 500 RANK	SALES				PROFITS				PROFITS AS % OF						EARNINGS PER SHARE		TOTAL RETURN TO INVESTORS				EMPLOYEES		
									SALES		ASSETS		EQUITY		1979-89 annual growth rate		1979-89 annual average		1989				
	$ Mil.	Rank	% change from 1988	Rank	$ Mil.	Rank	% change from 1988	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	Number	Rank	% change from 1988
JOHNSON CONTROLS 126	3,690	1	19	2	98	1	(6)	5	3	6	4	6	10	6	4	6	12	6	(9)	6	42,600	2	47
INTERCO 138	3,278	2	(2)	8	70	2	(52)	7	2	7	4	7	–		(7)	7	(1)	7	(84)	7	46,900	1	(13)
LEAR SIEGLER SEATING 340	1,015	3	–		(8)	8	–		(1)	8	(1)	8	(17)	7	–		–		–		5,510	7	–
LEGGETT & PLATT 350	982	4	22	1	46	3	22	1	5	4	8	4	16	3	17	1	26	1	30	3	11,300	3	7
MILLER (HERMAN) 386	799	5	12	5	45	4	0	3	6	2	9	3	17	2	15	2	23	3	2	4	5,187	8	2
OHIO MATTRESS HLDG. 420	706	6	7	6	(25)	9	(174)	8	(3)	9	(2)	9	(55)	8	–		–		–		5,000	9	(10)
HON INDUSTRIES 462	608	7	6	7	27	7	(22)	6	5	5	10	2	21	1	6	5	20	5	111	1	6,385	6	18

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									SALES		ASSETS		EQUITY		1979-89 annual growth rate		1979-89 annual average		1989				
	$ Mil.	Rank	% change from 1988	Rank	$ Mil.	Rank	% change from 1988	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	Number	Rank	% change from 1988
KIMBALL INTERNATIONAL 470	597	8	13	4	34	5	(4)	4	6	1	10	1	14	5	8	4	22	4	31	2	8,351	4	1
LA-Z-BOY CHAIR 496	556	9	14	3	27	6	4	2	5	3	8	5	14	4	14	3	26	2	(4)	5	7,743	5	(3)
TOTAL	12,242		24		315		(48)		—		—		—		—		—		—		138,976		20
MEDIAN	799		12		34		(5)		5		8		14		8		22		2		7,743		2
11 INDUSTRIAL AND FARM EQUIPMENT 28 COMPANIES																							
TENNECO 26	14,439	1	(8)	26	584	1	(29)	16	4	12	3	14	17	5	(2)	11	12	9	34	6	90,000	1	(4)
CATERPILLAR 38	11,126	2	7	15	497	2	(19)	15	4	10	5	10	11	12	(1)	9	3	18	(7)	14	60,408	2	(0)
DEERE 66	7,221	3	35	4	380	3	21	4	5	4	4	11	14	10	0	8	8	13	31	7	38,949	3	2
DRESSER INDUSTRIES 119	4,023	4	2	18	170	5	8	10	4	11	6	8	11	13	(2)	10	9	12	56	3	31,400	7	2
CUMMINS ENGINE 132	3,511	5	6	16	(6)	23	—		0	23	0	23	(1)	21	—		9	11	(18)	21	25,100	8	(4)
INGERSOLL-RAND 134	3,447	6	14	7	211	4	30	3	6	2	8	2	15	6	3	6	15	7	51	4	31,623	6	4
BLACK & DECKER 141	3,221	7	41	2	30	17	(69)	19	1	19	0	20	4	19	(14)	18	1	22	(14)	18	38,600	4	86
PARKER HANNIFIN 177	2,520	8	12	9	124	7	17	8	5	5	6	6	15	7	4	4	11	10	(8)	15	33,463	5	0
BAKER HUGHES 191	2,328	9	1	20	85	8	(18)	14	4	14	4	12	8	15	(9)	15	3	19	87	1	20,400	10	(5)
DOVER 202	2,136	10	9	12	144	6	(1)	12	7	1	10	1	19	3	11	2	19	4	27	8	20,049	11	(2)
TRINOVA 217	1,942	11	1	19	32	16	(63)	18	2	18	2	18	5	18	(5)	12	16	6	(9)	16	21,597	9	(7)
TECUMSEH PRODUCTS 256	1,535	12	40	3	83	9	18	7	5	3	8	3	12	11	4	5	13	8	(2)	13	15,781	14	29
TIMKEN 258	1,533	13	(1)	22	55	13	(16)	13	4	15	4	13	5	17	(8)	14	5	17	(20)	23	17,248	12	(4)
HARNISCHFEGER IND. 262	1,483	14	25	5	71	10	389	1	5	7	5	9	14	9	—		5	16	21	10	12,000	15	3
CLARK EQUIPMENT 273	1,422	15	11	10	69	11	50	2	5	6	7	4	14	8	(7)	13	3	20	19	11	9,183	19	2
YORK HOLDINGS 278	1,409	16	14	8	(2)	22	—		0	22	0	22	—		—		—		—		10,100	18	2
FIGGIE INTERNATIONAL 289	1,333	17	11	11	63	12	2	11	5	8	6	7	20	2	5	3	25	1	(11)	17	17,000	13	(2)
NACCO INDUSTRIES 313	1,188	18	93	1	54	14	20	6	5	9	3	16	18	4	17	1	18	5	78	2	10,725	16	64
FUQUA INDUSTRIES 356	952	19	(4)	25	6	20	(93)	20	1	20	1	19	2	20	(13)	17	21	3	(16)	19	10,153	17	(32)
INTERLAKE 362	913	20	2	17	1	21	(98)	21	0	21	0	21	—		(30)	19	23	2	23	9	7,053	23	(10)
BRIGGS & STRATTON 364	877	21	(4)	24	(20)	25	(166)	22	(2)	25	(4)	25	(8)	22	—		6	15	(2)	12	7,316	22	(26)
CINCINNATI MILACRON 370	861	22	0	21	17	19	(53)	17	2	17	3	17	8	16	(12)	16	2	21	(18)	20	7,683	21	(8)
IMO INDUSTRIES 376	851	23	24	6	34	15	20	5	4	13	3	15	10	14	—		—		(18)	22	8,000	20	7
DRESSER-RAND 378	848	24	—		—		—		—		—		—		—		—		—		8,000	20	—
LINCOLN ELECTRIC 423	697	25	—		—		—		—		—		—		—		—		—		—		—
TORO 441	651	26	7	14	22	18	10	9	3	16	7	5	23	1	0	7	7	14	35	5	3,068	26	(1)
MARLEY 461	611	27	8	13	(11)	24	(290)	23	(2)	24	(3)	24	—		—		—		—		4,678	25	(3)
ALLIED PRODUCTS 492	565	28	(2)	23	(22)	26	(511)	24	(4)	26	(5)	26	(21)	23	—		(3)	23	(43)	24	5,102	24	(4)
TOTAL	73,644		1		2,671		(17)		—		—		—		—		—		—		564,680		(6)
MEDIAN	1,452		7		55		(9)		4		3		10		(2)		9		(2)		16,391		(1)
12 JEWELRY, SILVERWARE 1 COMPANY																							
JOSTENS 424	696	1	17	1	54	1	(39)	1	8	1	12	1	24	1	11	1	24	1	55	1	8,264	1	18
13 LEATHER N.A.																							
14 METAL PRODUCTS 16 COMPANIES																							
GILLETTE 124	3,850	1	7	8	285	1	8	7	7	6	9	6	373	1	11	6	28	4	51	3	30,400	2	3
MASCO 142	3,151	2	29	3	221	2	(23)	10	7	7	6	9	12	10	7	9	17	9	(1)	11	42,000	1	56
ILLINOIS TOOL WORKS 200	2,173	3	13	7	164	3	17	3	8	5	10	5	19	5	14	4	25	5	31	6	15,700	5	11
MCDERMOTT 205	2,121	4	7	9	8	16	(65)	14	0	16	0	16	1	16	—		—		—		23,000	3	10
STANLEY WORKS 212	1,981	5	4	14	118	4	14	4	6	9	8	7	17	9	7	10	15	12	41	5	18,464	4	(3)
CROWN CORK & SEAL 221	1,910	6	4	13	94	6	1	8	5	10	6	10	12	11	9	8	19	8	15	9	14,747	6	17
HARSCO 284	1,351	7	6	11	11	14	(63)	13	1	15	1	15	3	15	(13)	14	15	11	(4)	13	12,600	7	9
BALL 307	1,222	8	14	5	36	12	(29)	11	3	13	4	12	9	13	2	11	24	6	25	7	7,154	12	1
HILLENBRAND IND. 320	1,144	9	29	2	75	8	7	5	7	8	7	8	19	8	12	5	29	3	45	4	9,000	10	13
NEWELL 321	1,123	10	14	6	85	7	39	1	8	4	10	3	19	6	17	3	40	1	60	2	10,200	9	(7)
PHILIPS INDUSTRIES 360	945	11	36	1	46	11	7	6	5	11	10	4	19	7	20	2	37	2	25	8	10,385	8	22
SNAP-ON TOOLS 363	891	12	4	12	105	5	(8)	9	12	1	13	1	11	12	9	7	13	13	(4)	14	7,445	11	5
DANAHER 401	756	13	1	15	61	9	39	2	8	3	12	2	32	3	—		21	7	8	10	6,300	13	(3)
CAMERON IRON WORKS 456	620	14	24	4	20	13	—		3	12	3	14	6	14	(13)	13	—		—		5,862	15	6
BUTLER MANUFACTURING 477	582	15	(10)	16	10	15	(36)	12	2	14	4	11	23	4	(6)	12	8	14	(1)	12	3,644	16	(2)
BANNER INDUSTRIES 480	579	16	6	10	50	10	—		9	2	4	13	50	2	23	1	15	10	85	1	6,115	14	(24)
TOTAL	24,399		(13)		1,389		(89)		—		—		—		—		—		—		222,816		(3)
MEDIAN	1,183		7		68		3		6		7		18		9		20		25		10,293		5

BY INDUSTRY

RANKED WITHIN INDUSTRY BY 11 MEASURES

INDUSTRY TABLE NUMBER / COMPANY 500 RANK	SALES $ Mil.	Rank	SALES % change from 1988	Rank	PROFITS $ Mil.	Rank	PROFITS % change from 1988	Rank	PROFITS AS % OF SALES %	Rank	ASSETS %	Rank	EQUITY %	Rank	EARNINGS PER SHARE 1979-89 annual growth rate %	Rank	TOTAL RETURN TO INVESTORS 1979-89 annual average %	Rank	1989 %	Rank	EMPLOYEES Number	Rank	% change from 1988
15 METALS 29 COMPANIES																							
ALUMINUM CO. OF AMER. 37	11,162	1	14	8	945	1	10	13	8	10	8	11	18	13	4	9	15	8	40	4	60,600	1	3
LTV 72	6,362	2	(15)	26	265	5	–		4	20	4	22	–		(10)	18	(17)	18	(50)	22	38,000	2	(13)
REYNOLDS METALS 75	6,201	3	11	10	533	2	11	12	9	9	10	9	20	9	7	7	17	4	3	16	30,500	3	3
BETHLEHEM STEEL 95	5,306	4	(3)	24	246	7	(39)	20	5	16	5	19	12	17	(7)	16	2	13	(20)	19	30,500	3	(7)
INLAND STEEL IND. 117	4,147	5	2	18	120	12	(54)	23	3	22	4	23	8	22	(7)	15	4	12	(16)	18	20,715	4	0
AMAX 120	3,915	6	(1)	19	360	3	(51)	22	9	7	9	10	18	14	(4)	13	(5)	16	4	14	20,000	5	–
PHELPS DODGE 165	2,726	7	18	6	267	4	(36)	19	10	4	11	8	20	10	4	8	10	10	32	7	13,288	8	24
NATIONAL STEEL 171	2,577	8	(1)	20	83	15	(6)	15	3	21	5	20	11	18	–		–		–		12,000	9	7
ARMCO 178	2,494	9	(23)	27	165	10	13	11	7	11	7	13	16	15	(9)	17	(6)	17	10	12	10,500	10	(46)
MAXXAM 184	2,423	10	367	1	117	13	569	1	5	15	4	24	50	2	15	2	16	6	93	1	8,300	13	(35)
TYCO LABORATORIES 213	1,971	11	23	3	91	14	37	5	5	17	7	14	19	11	13	3	34	1	42	3	14,000	7	17
PENN CENTRAL 226	1,833	12	19	5	174	9	68	3	9	5	5	18	10	20	12	5	15	7	15	11	15,100	6	(11)
CYPRUS MINERALS 229	1,790	13	35	2	250	6	47	4	14	2	14	3	18	12	–		–		25	10	8,456	12	14
HILLSBOROUGH 236	1,706	14	(32)	28	(185)	28	–		(11)	28	(5)	29	–		–		–		–		8,935	11	(31)
CYCLOPS INDUSTRIES 286	1,347	15	8	14	36	22	27	6	3	23	7	12	43	3	–		–		37	6	6,800	16	(6)
WEIRTON STEEL 288	1,338	16	(3)	25	16	25	(79)	25	1	26	2	26	5	24	–		–		–		7,980	15	6
NUCOR 297	1,269	17	20	4	58	20	(47)	21	5	19	6	17	10	19	3	10	17	3	27	8	5,400	20	6
WHEELING-PITTSBURGH 310	1,203	18	9	13	179	8	(31)	18	15	1	12	4	116	1	11	6	(4)	15	27	9	6,330	18	2
ALLEGHENY LUDLUM 315	1,160	19	(2)	23	134	11	23	8	11	3	17	1	41	4	–		–		39	5	5,500	19	(2)
ESSEX GROUP 335	1,056	20	–		27	24	–		3	24	6	16	26	6	–		–		–		3,603	24	–
AMSTED INDUSTRIES 341	1,014	21	6	17	65	17	475	2	6	13	11	6	37	5	1	11	–		–		8,072	14	(7)
WORTHINGTON IND. 346	1,006	22	11	11	64	18	14	10	6	14	12	5	20	8	12	4	17	5	3	15	6,500	17	7
J&L SPECIALTY 377	849	23	10	12	79	16	(28)	17	9	6	14	2	–		–		–		–		1,310	28	0
TEXAS INDUSTRIES 413	717	24	13	9	4	27	(71)	24	1	27	1	27	1	25	(26)	19	7	11	(27)	21	3,000	26	(6)
LONE STAR TECH. 432	675	25	(2)	21	(191)	29	–		(28)	29	(5)	28	(179)	26	–		–		(74)	23	1,986	27	(32)
MAGMA COPPER 440	653	26	8	15	58	19	4	14	9	8	6	15	13	16	–		–		(27)	20	4,201	22	1
HANDY & HARMAN 442	646	27	(2)	22	8	26	(20)	16	1	25	2	25	7	23	(6)	14	2	14	(3)	17	5,022	21	(18)
LUKENS 443	645	28	7	16	41	21	24	7	6	12	11	7	20	7	17	1	21	2	47	2	3,878	23	1
CARPENTER TECHNOLOGY 448	634	29	14	7	29	23	19	9	5	18	4	21	9	21	(4)	12	10	9	7	13	3,542	25	(9)
TOTAL	68,845		13		4,037		183		–		–		–		–		–		–		364,018		–
MEDIAN	1,347		8		83		10		5		6		16		3		10		10		8,026		(0)
16 MINING, CRUDE-OIL PRODUCTION 11 COMPANIES																							
ASARCO 196	2,240	1	13	2	231	1	12	4	10	5	9	4	16	4	(4)	5	(0)	6	15	10	9,000	1	6
FREEPORT-MCMORAN 210	2,015	2	4	6	131	5	(58)	8	6	7	4	7	33	2	2	3	9	3	26	9	7,310	2	13
ORYX ENERGY 303	1,237	3	(4)	11	139	3	–		11	4	3	9	9	7	–		–		77	3	2,900	4	(9)
UNION TEXAS 318	1,160	4	2	9	173	2	58	3	15	2	10	2	48	1	–		–		77	2	1,927	8	4
VULCAN MATERIALS 334	1,076	5	2	8	131	4	(4)	6	12	3	13	1	20	3	9	2	23	1	11	11	6,250	3	(1)
LOUISIANA LAND & EXP. 404	752	6	4	5	44	8	–		6	8	4	6	11	6	(10)	7	5	5	42	8	685	11	10
NERCO 415	713	7	8	3	68	7	2	5	10	6	5	5	13	5	–		–		66	4	2,266	7	(4)
MAXUS ENERGY 463	608	8	6	4	(31)	11	–		(5)	11	(2)	11	–		–		(2)	8	60	5	1,891	9	(5)
WESTMORELAND COAL 465	605	9	2	10	11	10	662	1	2	10	3	8	8	8	18	1	(1)	7	52	6	1,295	10	(18)
NEWMONT MINING 467	603	10	21	1	126	6	(28)	7	21	1	10	3	–		(6)	6	17	2	46	7	2,684	5	(5)
MITCHELL ENERGY 482	577	11	3	7	22	9	146	2	4	9	1	10	4	9	(4)	4	8	4	97	1	2,300	6	2
TOTAL	11,594		32		1,044		162		–		–		–		–		–		–		38,508		22
MEDIAN	752		4		126		7		10		4		11		(4)		7		52		2,300		(1)
17 MOTOR VEHICLES AND PARTS 23 COMPANIES																							
GENERAL MOTORS 1	126,974	1	5	10	4,224	1	(13)	8	3	10	2	13	12	8	2	7	12	10	8	4	775,100	1	1
FORD MOTOR 2	96,933	2	5	11	3,835	2	(28)	11	4	8	2	15	17	5	14	1	25	1	(8)	9	366,641	2	2
CHRYSLER 8	36,156	3	2	14	359	3	(66)	16	1	17	1	17	5	14	–		23	2	(23)	13	121,947	3	(16)
DANA 99	5,157	4	(0)	17	132	6	(19)	9	3	13	3	12	13	7	(0)	9	13	9	(7)	8	37,500	5	(5)
NAVISTAR INT'L 113	4,296	5	5	9	87	8	(64)	15	2	15	2	14	10	11	(33)	12	(20)	14	(28)	15	14,237	9	(9)
EATON 115	4,249	6	0	16	225	5	6	7	5	5	7	7	20	3	4	6	17	5	6	5	43,048	4	(3)
PACCAR 136	3,373	7	8	7	242	4	38	5	7	4	8	5	24	1	8	4	17	4	10	3	13,077	11	(5)
MACK TRUCKS 215	1,958	8	(7)	21	(185)	23	(683)	20	(9)	23	(11)	23	(54)	18	–		–		(54)	18	7,870	18	(16)
MASCO INDUSTRIES 239	1,687	9	2	13	57	11	(31)	14	3	9	3	11	15	6	–		–		(28)	16	14,300	8	(4)
FLEETWOOD ENTERPRISES 249	1,632	10	16	4	70	10	46	3	4	7	10	4	18	4	12	2	21	3	(2)	7	12,000	13	14
COLT INDUSTRIES 250	1,618	11	(2)	18	119	7	31	6	7	2	13	2	–		–		–		–		13,300	10	(13)

RANKED WITHIN INDUSTRY BY 11 MEASURES

INDUSTRY TABLE NUMBER COMPANY 500 RANK	SALES				PROFITS				PROFITS AS % OF						EARNINGS PER SHARE		TOTAL RETURN TO INVESTORS				EMPLOYEES		
									SALES		ASSETS		EQUITY		1979-89 annual growth rate		1979-89 annual average		1989				
	$ Mil.	Rank	% change from 1988	Rank	$ Mil.	Rank	% change from 1988	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	Number	Rank	% change from 1988
ARVIN INDUSTRIES 251	1,617	12	18	2	18	17	419	1	1	16	2	16	5	13	(8)	11	16	7	(16)	12	17,800	6	6
ECHLIN 266	1,468	13	13	5	44	13	(28)	12	3	11	4	8	7	12	1	8	11	11	(1)	6	16,200	7	10
FEDERAL-MOGUL 330	1,086	14	(8)	22	29	14	(30)	13	3	12	4	9	10	10	(3)	10	15	8	(8)	10	12,006	12	(11)
SMITH (A.O.) 339	1,024	15	(4)	19	(10)	19	(150)	17	(1)	19	(1)	19	(4)	15	–		5	12	(13)	11	9,900	14	(14)
TEREX 369	863	16	151	1	19	16	42	4	2	14	3	10	23	2	–		–		73	1	9,400	15	500
SPX 397	773	17	(12)	23	81	9	81	2	11	1	14	1	(54)	17	10	3	16	6	12	2	5,000	22	(44)
INSILCO 398	766	18	2	15	(43)	22	–		(6)	22	(4)	21	(97)	20	–		–		–		7,324	19	–
HARVARD INDUSTRIES 400	758	19	11	6	(20)	21	(245)	19	(3)	21	(4)	20	(64)	19	–		–		–		8,500	16	4
INT'L CONTROLS 408	743	20	6	8	3	18	–		0	18	1	18	–		–		–		–		4,100	23	26
EAGLE-PICHER IND. 410	734	21	(5)	20	54	12	–		7	3	11	3	–		5	5	(4)	13	(41)	17	8,200	17	(9)
SUDBURY 450	627	22	18	3	(16)	20	(238)	18	(2)	20	(4)	22	(25)	16	–		–		(24)	14	5,400	21	(7)
UIS 485	573	23	2	12	28	15	(22)	10	5	6	8	6	10	9	–		–		–		6,000	20	(2)
TOTAL	295,064		3		9,353		(24)		–		–		–		–		–		–		1,528,850		(5)
MEDIAN	1,617		2		54		(25)		3		3		7		3		15		(8)		12,006		(4)

18 PETROLEUM REFINING 27 COMPANIES

INDUSTRY TABLE NUMBER COMPANY 500 RANK	SALES				PROFITS				PROFITS AS % OF						EARNINGS PER SHARE		TOTAL RETURN TO INVESTORS				EMPLOYEES		
									SALES		ASSETS		EQUITY		1979-89 annual growth rate		1979-89 annual average		1989				
	$ Mil.	Rank	% change from 1988	Rank	$ Mil.	Rank	% change from 1988	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	Number	Rank	% change from 1988
EXXON 3	86,656	1	9	19	3,510	1	(33)	17	4	10	4	13	12	9	1	5	22	1	19	21	104,000	1	3
MOBIL 6	50,976	2	6	21	1,809	4	(13)	14	4	13	5	11	11	12	(1)	9	16	5	44	12	67,900	2	(2)
TEXACO 10	32,416	3	(3)	24	2,413	2	85	3	7	3	9	2	26	4	3	3	17	2	42	14	37,067	7	(7)
CHEVRON 11	29,443	4	17	8	251	10	(86)	24	1	25	1	25	2	25	(18)	18	16	6	55	5	54,826	3	2
AMOCO 12	24,214	5	14	12	1,610	5	(22)	16	7	4	5	7	12	8	2	4	17	4	52	7	53,648	4	0
SHELL OIL 13	21,703	6	3	23	1,405	6	13	9	6	5	5	8	9	16	–		–		–		31,338	8	(3)
USX 19	17,755	7	12	15	965	7	28	6	5	7	6	6	17	6	–		13	11	27	19	53,610	5	(9)
ATLANTIC RICHFIELD 22	15,905	8	(10)	26	1,953	3	23	7	12	1	9	3	30	1	9	1	17	3	45	11	26,600	9	(2)
PHILLIPS PETROLEUM 30	12,492	9	11	18	219	11	(66)	23	2	19	2	20	10	14	(7)	13	12	14	35	16	21,800	10	4
UNOCAL 40	10,417	10	18	7	260	9	(46)	19	2	17	3	16	11	10	(3)	10	14	8	61	3	17,286	12	(5)
SUN 46	9,927	11	15	11	98	18	–	1	1	24	1	24	3	24	(17)	17	14	10	33	17	21,600	11	1
COASTAL 54	8,686	12	6	20	170	12	8	10	2	18	2	21	9	15	–		14	9	46	10	13,232	13	(30)
ASHLAND OIL 58	8,017	13	3	22	86	19	(62)	22	1	23	2	22	8	19	(15)	15	13	12	22	20	37,800	6	1
AMERADA HESS 89	5,589	14	33	1	476	8	283	2	9	2	7	5	19	5	0	8	10	16	57	4	8,740	15	7
CITGO PETROLEUM 105	4,941	15	20	6	161	13	(3)	12	3	14	10	1	27	3	–		–		–		3,300	23	–
KERR-MCGEE 144	3,122	16	14	14	156	14	42	4	5	8	5	10	11	13	0	6	8	17	38	15	7,942	16	2
AMERICAN PETROFINA 148	3,058	17	16	9	119	15	(10)	13	4	11	5	9	11	11	0	7	11	15	13	22	3,347	22	(7)
PENNZOIL 163	2,750	18	32	2	104	17	(93)	25	4	12	2	19	7	21	(6)	11	15	7	28	18	10,700	14	7
DIAMOND SHAMROCK 206	2,091	19	16	10	28	23	(47)	20	1	22	3	17	8	17	–		–		67	2	4,800	20	20
MAPCO 209	2,019	20	12	16	116	16	(1)	11	6	6	8	4	29	2	5	2	12	13	50	8	5,994	17	19
MURPHY OIL 241	1,684	21	14	13	47	20	20	8	3	16	2	18	6	22	(7)	12	7	18	43	13	4,538	21	5
TOSCO 270	1,441	22	26	3	40	22	(55)	21	3	15	4	12	15	7	(21)	19	(14)	22	48	9	1,680	26	98
CROWN CENTRAL 279	1,403	23	22	5	21	24	(45)	18	1	20	3	15	7	20	(15)	16	(1)	20	54	6	5,745	18	5
VALERO ENERGY 361	941	24	22	4	42	21	36	5	4	9	4	14	8	18	–		–		72	1	1,816	24	(7)
QUAKER STATE 383	819	25	(6)	25	12	25	(21)	15	1	21	2	23	4	23	(12)	14	4	19	(10)	23	5,628	19	5
TESORO PETROLEUM 396	773	26	(31)	27	(31)	26	(258)	26	(4)	26	(7)	26	(29)	26	–		(5)	21	(22)	24	1,800	25	–
NAT'L COOP. REFINERY 437	663	27	11	17	–		–		–		–		–		–		–		–		560	27	(1)
TOTAL	359,900		8		16,040		(20)		–		–		–		–		–		–		607,297		(2)
MEDIAN	5,589		14		159		(12)		3		4		10		(3)		13		44		10,700		1

19 PHARMACEUTICALS 12 COMPANIES

INDUSTRY TABLE NUMBER COMPANY 500 RANK	SALES				PROFITS				PROFITS AS % OF						EARNINGS PER SHARE		TOTAL RETURN TO INVESTORS				EMPLOYEES		
									SALES		ASSETS		EQUITY		1979-89 annual growth rate		1979-89 annual average		1989				
	$ Mil.	Rank	% change from 1988	Rank	$ Mil.	Rank	% change from 1988	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	Number	Rank	% change from 1988
JOHNSON & JOHNSON 47	9,844	1	9	8	1,082	3	11	9	11	8	14	7	26	6	13	5	19	11	43	5	83,100	1	2
BRISTOL-MYERS SQUIBB 50	9,422	2	58	1	747	6	(10)	10	8	10	9	9	15	11	5	11	24	4	29	10	54,100	2	54
AMERICAN HOME PRODUCTS 68	6,747	3	23	3	1,102	2	18	7	16	4	19	3	56	1	11	7	20	9	34	9	50,816	3	13
MERCK 70	6,698	4	13	5	1,495	1	24	3	22	3	22	2	42	2	16	3	24	3	38	7	34,400	6	7
PFIZER 80	5,904	5	10	7	681	7	(14)	11	12	7	8	10	15	10	10	8	17	12	24	11	42,100	4	3
ABBOTT LABORATORIES 90	5,454	6	10	6	860	5	14	8	16	5	18	4	32	5	18	2	24	5	45	4	40,929	5	6
WARNER-LAMBERT 114	4,272	7	9	9	413	9	21	5	10	9	14	6	37	4	15	4	24	2	51	3	33,000	7	–
LILLY (ELI) 116	4,176	8	3	12	940	4	23	4	22	2	16	5	25	7	11	6	21	8	64	1	28,200	8	6
SCHERING-PLOUGH 139	3,243	9	9	10	471	8	21	6	15	6	13	8	24	8	7	10	23	6	55	2	21,300	9	(5)
UPJOHN 156	2,916	10	6	11	176	11	(50)	12	6	12	5	11	10	12	1	12	21	7	38	6	20,100	10	(6)
RORER GROUP 311	1,198	11	15	4	86	12	40	2	7	11	5	12	18	9	9	9	19	10	12	12	8,527	11	2
MARION LABORATORIES 354	969	12	29	2	227	10	52	1	23	1	29	1	40	3	41	1	44	1	36	8	3,418	12	(1)
TOTAL	60,843		–		8,281		–		–		–		–		–		–		–		419,990		(8)
MEDIAN	4,863		10		714		20		13		14		26		11		22		38		33,700		3

BY INDUSTRY

RANKED WITHIN INDUSTRY BY 11 MEASURES

INDUSTRY TABLE NUMBER COMPANY 500 RANK	SALES				PROFITS				PROFITS AS % OF						EARNINGS PER SHARE		TOTAL RETURN TO INVESTORS				EMPLOYEES		
	$ Mil.	Rank	% change from 1988	Rank	$ Mil.	Rank	% change from 1988	Rank	SALES %	Rank	ASSETS %	Rank	EQUITY %	Rank	1979-89 annual growth rate %	Rank	1979-89 annual average %	Rank	1989 %	Rank	Number	Rank	% change from 1988
20 PUBLISHING, PRINTING 24 COMPANIES																							
TIME WARNER 59	7,642	1	70	1	(256)	24	(188)	22	(3)	24	(1)	24	(4)	23	–		22	10	14	14	35,000	1	67
GANNETT 130	3,523	2	6	14	398	2	9	11	11	6	11	7	20	8	10	10	19	16	25	9	32,900	2	(11)
TIMES MIRROR 131	3,517	3	8	11	298	4	(10)	17	8	9	8	13	16	12	8	11	18	18	12	15	29,044	3	4
DONNELLY (R.R.) 143	3,128	4	9	9	222	8	8	12	7	11	9	9	15	13	13	9	25	7	51	3	26,100	4	7
BERKSHIRE HATHAWAY 179	2,484	5	25	2	447	1	12	10	18	2	5	18	9	17	25	1	39	2	85	1	20,000	7	–
TRIBUNE 182	2,455	6	5	17	242	7	15	9	10	8	8	12	22	6	–		–		24	10	14,700	9	1
KNIGHT-RIDDER 189	2,343	7	7	13	247	6	58	3	11	7	12	6	27	2	13	8	19	15	32	8	21,000	5	(5)
READER'S DIGEST 225	1,871	8	9	8	152	11	7	13	8	10	13	3	34	1	–		–		–		7,400	15	–
NEW YORK TIMES 227	1,807	9	3	19	267	5	59	2	15	3	12	4	25	3	21	4	24	8	0	18	10,600	12	(1)
MCGRAW-HILL 230	1,789	10	(2)	22	48	14	(74)	21	3	23	2	23	5	22	(4)	18	19	17	(6)	20	14,461	10	(11)
DOW JONES 235	1,715	11	7	12	317	3	39	5	18	1	12	5	23	5	19	6	20	13	15	13	9,818	13	8
HARCOURT BRACE 237	1,702	12	(4)	23	72	13	–		4	18	3	21	–		(15)	19	21	12	(49)	23	6,400	17	(57)
WASHINGTON POST 269	1,444	13	6	16	198	9	(26)	18	14	4	13	2	21	7	23	2	31	3	35	7	6,200	19	(2)
DELUXE 293	1,321	14	10	7	153	10	6	14	12	5	18	1	24	4	16	7	27	5	42	5	16,948	8	2
AMERICAN GREETINGS 296	1,275	15	9	10	44	15	33	7	3	20	4	19	8	21	5	14	23	9	74	2	20,500	6	(7)
SCRIPPS (E.W.) 298	1,266	16	4	18	89	12	27	8	7	12	6	15	14	14	–		–		42	4	11,500	11	1
MEREDITH 387	793	17	17	3	33	19	(30)	19	4	19	5	17	9	18	7	12	22	11	17	11	4,118	21	7
STANDARD REGISTER 418	709	18	6	15	40	16	6	15	6	14	9	10	13	15	23	3	26	6	1	17	6,321	18	(1)
COMM. CLEARING HOUSE 425	692	19	13	5	34	17	(31)	20	5	16	6	14	16	11	6	13	16	19	(7)	21	7,782	14	8
MEDIA GENERAL 464	606	20	(20)	24	21	22	135	1	3	21	3	22	8	20	(1)	17	19	14	(8)	22	6,900	16	(13)
REYNOLDS & REYNOLDS 466	605	21	1	21	27	21	4	16	5	17	6	16	12	16	5	15	9	20	4	16	5,035	20	1
BANTA 474	589	22	12	6	34	18	45	4	6	13	9	11	17	10	21	5	27	4	0	19	3,796	22	3
WESTERN PUBL. GRP. 498	551	23	16	4	30	20	38	6	5	15	10	8	18	9	–		–		15	12	3,500	23	–
AFFILIATED PUB. 500	543	24	2	20	16	23	–		3	22	4	20	8	19	2	16	44	1	35	6	3,064	24	1
TOTAL	44,370		23		3,173		–		–		–		–		–		–		–		323,087		17
MEDIAN	1,573		7		81		9		6		8		16		10		22		15		10,209		1
21 RUBBER AND PLASTICS PRODUCTS 10 COMPANIES																							
GOODYEAR TIRE 39	11,045	1	2	7	207	1	(41)	7	2	9	2	9	10	7	6	5	19	5	(12)	7	111,469	1	(2)
PREMARK INT'L 170	2,601	2	8	4	78	3	(26)	6	3	7	4	7	10	6	–		–		0	4	24,700	2	3
UNIROYAL GOODRICH 195	2,267	3	3	6	–		–		–		–		–		–		–		–		18,500	3	–
RUBBERMAID 285	1,349	4	13	2	116	2	17	3	9	1	13	1	19	1	16	3	29	4	48	1	8,409	5	6
RAYCHEM 326	1,104	5	1	8	36	5	(71)	8	3	6	3	8	5	9	(1)	7	7	7	(8)	6	11,451	4	5
COOPER TIRE & RUBBER 367	870	6	16	1	58	4	42	2	7	2	11	3	19	2	24	1	39	1	36	2	6,041	7	0
TREDEGAR IND. 445	638	7	–		17	9	–		3	8	5	6	9	8	–		–		–		5,000	8	–
SCHULMAN (A.) 451	626	8	5	5	31	6	11	4	5	4	12	2	18	3	15	4	35	2	28	3	1,260	10	5
STANDARD PRODUCTS 494	560	9	10	3	29	7	(16)	5	5	3	9	4	18	4	19	2	32	3	(22)	8	7,100	6	22
CARLISLE 495	558	10	(2)	9	27	8	55	1	5	5	8	5	13	5	5	6	14	6	(3)	5	4,548	9	5
TOTAL	21,616		(5)		600		(31)		–		–		–		–		–		–		198,478		(9)
MEDIAN	987		5		36		(2)		4		6		11		15		29		(2)		7,755		5
22 SCIENTIFIC AND PHOTOGRAPHIC EQUIPMENT 17 COMPANIES																							
EASTMAN KODAK 18	18,398	1	8	8	529	3	(62)	11	3	13	2	13	8	13	(5)	12	12	9	(5)	11	137,750	1	(5)
XEROX 21	17,635	2	7	10	704	2	81	1	4	12	2	12	13	10	0	11	5	12	3	9	111,400	2	(2)
MINNESOTA MINING 32	11,990	3	13	6	1,244	1	8	7	10	3	13	2	23	3	7	9	17	2	33	5	87,600	3	6
BAXTER INTERNATIONAL 63	7,399	4	8	9	446	4	15	5	6	8	5	9	11	12	6	10	10	10	46	4	64,300	4	0
POLAROID 218	1,942	5	4	12	145	6	–		7	7	8	6	97	1	14	4	16	6	26	6	11,441	9	(1)
BECTON DICKINSON 220	1,921	6	4	13	214	5	32	2	11	2	9	5	20	6	14	3	16	3	21	7	18,800	6	(9)
EG&G 245	1,655	7	18	4	70	9	2	8	4	9	11	4	20	5	12	5	12	8	21	8	31,000	5	24
TEKTRONIX 271	1,439	8	2	16	19	14	–		1	14	2	14	4	14	(11)	13	(3)	15	(10)	13	15,708	7	(2)
BAUSCH & LOMB 305	1,231	9	26	2	114	7	17	4	9	4	8	8	16	8	8	8	16	4	53	2	12,500	8	25
PERKIN-ELMER 324	1,105	10	(23)	17	(24)	16	(134)	12	(2)	16	(2)	16	(4)	16	–		3	13	(6)	12	6,585	13	(40)
BARD (C.R.) 393	778	11	3	15	65	10	(17)	10	8	5	12	3	20	7	18	1	28	1	(2)	10	8,300	10	1
MEDTRONIC 405	747	12	14	5	97	8	13	6	13	1	13	1	21	4	17	2	16	5	71	1	6,303	15	7
ANACOMP 416	710	13	55	1	(171)	17	(512)	14	(24)	17	(22)	17	–		–		(9)	16	(37)	16	6,370	14	(22)
MILLIPORE 439	661	14	6	11	53	11	(3)	9	8	6	8	7	13	9	8	7	7	11	(22)	14	5,868	16	1
BELL & HOWELL 454	623	15	4	14	25	12	–		4	11	4	11	30	2	–		–		–		6,800	11	–
FOXBORO 469	598	16	11	7	(5)	15	(147)	13	(1)	15	(1)	15	(3)	15	–		1	14	(25)	15	6,700	12	(7)

BY 1NDUSTRY

INDUSTRY TABLE NUMBER / COMPANY 500 RANK	RANKED WITHIN INDUSTRY BY 11 MEASURES																						
	SALES				PROFITS				PROFITS AS % OF						EARNINGS PER SHARE		TOTAL RETURN TO INVESTORS				EMPLOYEES		
									SALES		ASSETS		EQUITY		1979-89 annual growth rate		1979-89 annual average		1989				
	$ Mil.	Rank	% change from 1988	Rank	$ Mil.	Rank	% change from 1988	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	Number	Rank	% change from 1988
THERMO ELECTRON 472	594	17	19	3	25	13	22	3	4	10	4	10	12	11	11	6	15	7	51	3	4,965	17	8
TOTAL	69,425		(2)		3,551		(6)		—		—		—		—		—		—		542,390		(8)
MEDIAN	1,231		8		70		5		4		5		13		8		12		12		11,441		(1)
23 SOAPS, COSMETICS 11 COMPANIES																							
PROCTER & GAMBLE 14	21,689	1	12	7	1,206	1	18	2	6	4	7	7	19	5	7	7	19	6	66	2	79,300	1	3
UNILEVER U.S. 56	8,114	2	17	6	139	3	4	7	2	9	1	10	6	10	—		—		—		30,567	2	27
COLGATE-PALMOLIVE 103	5,110	3	(7)	11	280	2	(12)	9	5	5	8	5	25	2	11	4	22	5	39	6	24,100	4	(2)
AVON PRODUCTS 135	3,396	4	1	10	55	6	—		2	10	3	9	24	3	(22)	9	7	9	95	1	28,400	3	—
REVLON GROUP 164	2,739	5	11	8	—		—		—		—		—		—		—		—		—		—
CLOROX 265	1,471	6	17	5	124	5	(6)	8	8	2	10	3	16	8	11	5	29	4	40	5	5,300	7	10
INT'L FLAVORS 368	870	7	4	9	139	4	8	6	16	1	14	1	18	7	8	6	17	7	42	4	4,217	8	1
ALBERTO-CULVER 412	717	8	19	4	29	8	9	4	4	7	8	4	18	6	17	2	35	1	22	8	5,600	6	14
HELENE CURTIS IND. 449	629	9	29	1	14	10	33	1	2	8	4	8	11	9	22	1	31	3	29	7	2,900	10	7
CHEMED 471	594	10	19	3	26	9	9	5	4	6	8	6	22	4	7	8	13	8	15	9	5,721	5	3
STANHOME 483	577	11	20	2	45	7	10	3	8	3	13	2	26	1	13	3	31	2	45	3	4,000	9	—
TOTAL	45,907		11		2,057		46		—		—		—		—		—		—		190,105		5
MEDIAN	1,471		17		90		9		4		8		18		11		22		40		5,661		5
24 TEXTILES 14 COMPANIES																							
WICKES 107	4,802	1	—		(123)	14	—		(3)	13	(3)	13	(11)	12	—		—		—		38,000	1	—
ARMSTRONG WORLD IND. 158	2,864	2	7	6	188	1	15	6	7	1	9	1	19	3	12	2	21	3	9	5	25,607	3	(1)
WEST POINT-PEPPERELL 172	2,568	3	19	3	(19)	11	(123)	11	(1)	11	(1)	11	(1)	11	—		—		—		—		—
BURLINGTON HOLDINGS 199	2,198	4	(10)	12	(23)	12	—		(1)	12	(1)	12	—		—		—		—		27,500	2	(2)
SPRINGS INDUSTRIES 222	1,909	5	5	7	65	2	23	4	3	6	5	5	11	6	6	3	20	4	25	3	23,600	4	1
AMOSKEAG 280	1,402	6	2	9	7	9	96	2	0	9	1	9	2	9	—		—		—		20,908	5	—
DWG 314	1,185	7	1	10	(1)	10	(102)	10	0	10	0	10	(1)	10	—		22	2	71	1	17,300	6	1
SHAW INDUSTRIES 316	1,176	8	23	2	48	3	41	3	4	5	9	3	26	1	24	1	39	1	34	2	10,700	7	3
JPS TEXTILE GROUP 382	821	9	—		(57)	13	—		(7)	14	(9)	14	—		—		—		—		8,800	9	—
CONE MILLS 414	715	10	4	8	12	7	115	1	2	8	3	8	9	7	—		—		—		8,900	8	—
GUILFORD MILLS 455	622	11	8	5	26	5	(2)	8	4	3	6	4	13	5	(2)	5	17	5	(9)	7	4,426	13	11
INTERFACE 478	582	12	47	1	25	6	22	5	4	4	5	6	16	4	—		—		19	4	4,550	12	—
DIXIE YARNS 487	571	13	(6)	11	12	8	(45)	9	2	7	3	7	6	8	5	4	—		(16)	8	7,700	11	—
DELTA WOODSIDE IND. 488	569	14	17	4	30	4	10	7	5	2	9	2	24	2	—		—		9	6	8,300	10	17
TOTAL	21,984		46		189		(55)		—		—		—		—		—		—		206,291		4
MEDIAN	1,180		6		12		15		2		3		8		6		21		14		10,700		1
25 TOBACCO 6 COMPANIES																							
AMERICAN BRANDS 64	7,265	1	(3)	6	631	1	9	3	9	3	6	3	21	3	8	4	23	3	12	3	47,300	1	(3)
UNIVERSAL 155	2,920	2	21	3	54	4	(11)	5	2	5	5	4	14	5	9	3	20	4	12	4	20,000	2	—
LORILLARD 264	1,475	3	5	5	399	2	5	4	27	2	41	1	97	1	—		—		—		4,100	3	(4)
STANDARD COMMERCIAL 357	951	4	27	1	2	6	(91)	6	0	6	0	6	1	6	(14)	5	17	5	(22)	5	1,600	6	(75)
DIBRELL BROTHERS 427	689	5	24	2	15	5	15	2	2	4	5	5	19	4	17	2	34	1	32	2	2,730	5	(89)
UST 433	670	6	10	4	190	3	17	1	28	1	30	2	39	2	18	1	33	2	55	1	3,337	4	2
TOTAL	13,971		(64)		1,290		(64)		—		—		—		—		—		—		79,067		(70)
MEDIAN	1,213		16		122		9		5		5		20		9		23		12		3,719		(4)
26 TOYS, SPORTING GOODS 2 COMPANIES																							
HASBRO 277	1,410	1	5	2	92	1	27	2	7	1	7	2	11	2	34	1	51	1	21	2	8,200	2	—
MATTEL 302	1,237	2	25	1	69	2	91	1	6	2	8	1	32	1	0	2	11	2	108	1	11,183	1	4
TOTAL	2,647		14		161		49		—		—		—		—		—		—		19,383		2
27 TRANSPORTATION EQUIPMENT 5 COMPANIES																							
BRUNSWICK 159	2,826	1	(14)	5	(71)	5	(137)	5	(3)	5	(4)	5	(9)	5	—		28	1	(14)	5	25,800	1	(9)
OUTBOARD MARINE 242	1,678	2	5	4	70	1	(9)	3	4	1	6	2	11	3	14	1	16	2	(14)	4	13,418	2	4
TRINITY INDUSTRIES 347	1,002	3	58	1	30	3	132	1	3	3	3	3	13	2	(4)	2	12	3	(10)	3	9,560	3	41
HARLEY-DAVIDSON 381	831	4	10	3	33	2	30	2	4	2	9	1	21	1	—		—		55	1	5,000	5	2
AVONDALE INDUSTRIES 419	708	5	20	2	2	4	(60)	4	0	4	0	4	1	4	—		—		(10)	2	8,500	4	(14)
TOTAL	7,046		(12)		64		(82)		3		3		11		—		—		—		62,278		—
MEDIAN	1,002		10		30		(9)		3		3		11		5		16		(10)		9,560		3

INDUSTRY MEDIANS

RETURN ON SALES

	1989	1988
PHARMACEUTICALS	13.0%	13.5%
MINING, CRUDE-OIL PRODUCTION	9.6	3.3
BEVERAGES	8.1	8.0
FOREST PRODUCTS	7.1	8.7
PUBLISHING, PRINTING	6.5	7.1
METAL PRODUCTS	6.2	4.6
CHEMICALS	6.1	6.9
COMPUTERS (INCL. OFFICE EQUIP.)	5.9	6.2
TOBACCO	5.4	7.8
METALS	4.8	6.2
FURNITURE	4.5	5.6
APPAREL	4.4	4.3
SOAPS, COSMETICS	4.4	5.3
SCIENTIFIC AND PHOTO. EQUIP.	4.2	5.0
ELECTRONICS	4.2	5.1
RUBBER AND PLASTICS PROD.	4.1	4.4
INDUSTRIAL AND FARM EQUIP.	3.6	4.3
AEROSPACE	3.3	3.6
PETROLEUM REFINING	3.3	4.7
TRANSPORTATION EQUIPMENT	3.0	3.1
MOTOR VEHICLES AND PARTS	2.7	3.5
FOOD	2.6	2.8
BUILDING MATERIALS	2.2	4.5
TEXTILES	1.9	3.5
THE 500 MEDIAN	4.7	5.5

RETURN ON ASSETS

	1989	1988
PHARMACEUTICALS	14.0%	13.1%
FURNITURE	7.9	8.8
SOAPS, COSMETICS	7.8	8.9
PUBLISHING, PRINTING	7.7	7.3
FOREST PRODUCTS	7.3	8.4
BEVERAGES	6.8	6.8
METAL PRODUCTS	6.7	5.8
APPAREL	6.7	6.1
CHEMICALS	6.5	7.5
RUBBER AND PLASTICS PROD.	6.3	6.4
METALS	6.1	8.2
TOBACCO	5.3	6.0
SCIENTIFIC AND PHOTO. EQUIP.	5.2	4.9
FOOD	5.2	6.7
ELECTRONICS	5.2	6.1
COMPUTERS (INCL. OFFICE EQUIP.)	5.0	5.6
PETROLEUM REFINING	4.1	5.3
MINING, CRUDE-OIL PRODUCTION	3.7	1.3
AEROSPACE	3.7	4.9
TRANSPORTATION EQUIPMENT	3.5	5.4
INDUSTRIAL AND FARM EQUIP.	3.3	5.4
TEXTILES	3.0	4.7
BUILDING MATERIALS	2.7	4.9
MOTOR VEHICLES AND PARTS	2.5	3.9
THE 500 MEDIAN	5.9	6.8

RETURN ON STOCKHOLDERS' EQUITY

	1989	1988
PHARMACEUTICALS	25.5%	23.6%
BEVERAGES	23.2	22.8
TOBACCO	20.1	22.5
SOAPS, COSMETICS	18.4	18.5
METAL PRODUCTS	18.0	12.7
APPAREL	17.5	17.5
FOREST PRODUCTS	16.8	19.8
METALS	16.1	18.4
PUBLISHING, PRINTING	15.6	17.7
FOOD	14.7	15.7
ELECTRONICS	14.1	16.8
FURNITURE	13.9	15.9
CHEMICALS	13.2	16.8
SCIENTIFIC AND PHOTO. EQUIP.	13.0	12.1
COMPUTERS (INCL. OFF. EQUIP.)	12.7	14.7
AEROSPACE	12.0	11.4
RUBBER AND PLASTICS PROD.	11.4	15.8
TRANSPORTATION EQUIPMENT	10.9	13.4
MINING, CRUDE-OIL PRODUCTION	10.6	2.4
PETROLEUM REFINING	10.3	15.3
INDUSTRIAL AND FARM EQUIP.	9.3	12.7
TEXTILES	7.7	10.8
MOTOR VEHICLES AND PARTS	6.9	14.5
BUILDING MATERIALS	4.0	−3.3
THE 500 MEDIAN	15.0	16.2

INDUSTRY MEDIANS

CHANGES IN SALES

INCREASES	
SOAPS, COSMETICS	16.6%
TOBACCO	15.7
APPAREL	14.2
PETROLEUM REFINING	13.8
FURNITURE	12.4
COMPUTERS (INCLUDES OFFICE EQUIP.)	10.1
PHARMACEUTICALS	10.0
BEVERAGES	10.0
TRANSPORTATION EQUIPMENT	9.8
ELECTRONICS	8.7
FOOD	8.6
SCIENTIFIC AND PHOTOGRAPHIC EQUIP.	7.8
METALS	7.6
INDUSTRIAL AND FARM EQUIPMENT	7.3
FOREST PRODUCTS	7.2
METAL PRODUCTS	7.0
PUBLISHING, PRINTING	6.9
BUILDING MATERIALS	5.8
TEXTILES	5.7
CHEMICALS	5.2
RUBBER AND PLASTICS PRODUCTS	4.8
MINING, CRUDE-OIL PRODUCTION	3.6
AEROSPACE	3.0
MOTOR VEHICLES AND PARTS	2.4

CHANGES IN PROFITS

INCREASES	
PHARMACEUTICALS	19.6%
BEVERAGES	18.3
TEXTILES	15.3
FOOD	14.0
ELECTRONICS	10.0
METALS	9.7
PUBLISHING, PRINTING	8.6
SOAPS, COSMETICS	8.5
TOBACCO	8.5
MINING, CRUDE-OIL PRODUCTION	7.0
BUILDING MATERIALS	7.0
APPAREL	6.5
SCIENTIFIC AND PHOTOGRAPHIC EQUIP.	4.8
METAL PRODUCTS	3.4
CHEMICALS	0.1

DECREASES	
MOTOR VEHICLES AND PARTS	25.0%
AEROSPACE	12.5
PETROLEUM REFINING	11.8
TRANSPORTATION EQUIPMENT	9.4
COMPUTERS (INCLUDES OFFICE EQUIP.)	9.0
INDUSTRIAL AND FARM EQUIPMENT	8.6
FOREST PRODUCTS	5.3
FURNITURE	4.8
RUBBER AND PLASTICS PRODUCTS	2.2

TOTAL RETURN TO INVESTORS, 1989

MINING, CRUDE-OIL PRODUCTION	51.7
PETROLEUM REFINING	43.8
BEVERAGES	41.0
SOAPS, COSMETICS	39.7
PHARMACEUTICALS	37.6
FOOD	27.9
APPAREL	25.3
METAL PRODUCTS	24.9
FOREST PRODUCTS	19.8
CHEMICALS	17.6
PUBLISHING, PRINTING	15.4
TEXTILES	14.0
BUILDING MATERIALS	12.9
ELECTRONICS	12.6
TOBACCO	12.3
SCIENTIFIC AND PHOTOGRAPHIC EQUIP.	11.9
METALS	10.2
AEROSPACE	7.8
FURNITURE	1.8
RUBBER AND PLASTICS PRODUCTS	−1.6
INDUSTRIAL AND FARM EQUIPMENT	−2.2
MOTOR VEHICLES AND PARTS	−8.3
TRANSPORTATION EQUIPMENT	−10.4
COMPUTERS (INCLUDES OFFICE EQUIP.)	−17.1
THE 500 MEDIAN	17.5

INDUSTRY MEDIANS

TOTAL RETURN TO INVESTORS 1979-89 ANNUAL AVERAGE	
RUBBER AND PLASTICS PRODUCTS	29.2%
FOOD	27.1
BEVERAGES	26.7
APPAREL	24.0
TOBACCO	22.7
PUBLISHING, PRINTING	22.2
PHARMACEUTICALS	22.1
SOAPS, COSMETICS	22.1
FURNITURE	21.9
TEXTILES	21.4
METAL PRODUCTS	19.6
FOREST PRODUCTS	17.2
CHEMICALS	16.4
TRANSPORTATION EQUIPMENT	16.0
MOTOR VEHICLES AND PARTS	15.4
ELECTRONICS	13.0
PETROLEUM REFINING	12.9
SCIENTIFIC AND PHOTOGRAPHIC EQUIP.	12.1
AEROSPACE	12.0
BUILDING MATERIALS	11.4
METALS	10.1
INDUSTRIAL AND FARM EQUIPMENT	8.7
COMPUTERS (INCLUDES OFFICE EQUIP.)	8.6
MINING, CRUDE-OIL PRODUCTION	6.5
THE 500 MEDIAN	16.3

SALES PER DOLLAR OF STOCKHOLDERS' EQUITY	
FOOD	$5.52
TOBACCO	5.21
AEROSPACE	4.23
SOAPS, COSMETICS	4.13
MOTOR VEHICLES AND PARTS	4.07
APPAREL	3.95
TRANSPORTATION EQUIPMENT	3.64
FURNITURE	3.52
TEXTILES	3.48
RUBBER AND PLASTICS PRODUCTS	3.35
PETROLEUM REFINING	3.09
METAL PRODUCTS	3.01
ELECTRONICS	2.90
INDUSTRIAL AND FARM EQUIPMENT	2.89
METALS	2.77
COMPUTERS (INCLUDES OFFICE EQUIP.)	2.60
CHEMICALS	2.48
SCIENTIFIC AND PHOTOGRAPHIC EQUIP.	2.33
FOREST PRODUCTS	2.32
BEVERAGES	2.31
PUBLISHING, PRINTING	2.16
PHARMACEUTICALS	1.88
BUILDING MATERIALS	1.83
MINING, CRUDE-OIL PRODUCTION	1.56
THE 500 MEDIAN	2.96

SALES PER EMPLOYEE	
PETROLEUM REFINING	$537,026
MINING, CRUDE-OIL PRODUCTION	314,563
TOBACCO	226,636
FOOD	211,323
SOAPS, COSMETICS	209,117
CHEMICALS	205,813
METALS	195,750
BEVERAGES	194,426
FOREST PRODUCTS	177,000
BUILDING MATERIALS	155,000
PHARMACEUTICALS	142,807
PUBLISHING, PRINTING	123,952
COMPUTERS (INCL. OFFICE EQUIP.)	122,684
RUBBER AND PLASTICS PRODUCTS	122,573
AEROSPACE	121,002
MOTOR VEHICLES AND PARTS	117,941
METAL PRODUCTS	114,869
SCIENTIFIC AND PHOTO. EQUIP.	112,718
INDUSTRIAL AND FARM EQUIPMENT	112,091
TRANSPORTATION EQUIPMENT	109,539
ELECTRONICS	101,190
FURNITURE	95,280
TEXTILES	80,901
APPAREL	58,232
THE 500 MEDIAN	146,887

INDUSTRY TOTALS

RANKED BY SIX MEASURES

	SALES		PROFITS		ASSETS		STOCKHOLDERS' EQUITY		MARKET VALUE		EMPLOYEES	
	$ MIL	RANK	$ MIL	RANK	$ MIL	RANK	$ MIL	RANK	$ MIL	RANK	NUMBER	RANK
PETROLEUM REFINING	359,900	1	16,040	1	349,954	2	132,471	1	217,340	1	607,297	7
MOTOR VEHICLES AND PARTS	295,064	2	9,353	4	414,076	1	71,382	2	63,049	7	1,528,850	2
FOOD	209,480	3	6,933	6	171,288	4	43,236	7	120,587	4	1,104,407	4
ELECTRONICS	184,686	4	9,960	3	242,249	3	64,484	4	141,070	3	1,551,991	1
CHEMICALS	173,509	5	11,680	2	164,519	5	62,822	5	99,753	6	854,259	6
COMPUTERS (INCLUDES OFFICE EQUIP.)	136,424	6	5,660	8	140,446	6	69,452	3	114,543	5	955,423	5
AEROSPACE	132,427	7	4,296	9	107,192	8	34,803	8	48,870	12	1,169,502	3
FOREST PRODUCTS	106,799	8	6,923	7	115,809	7	43,307	6	59,827	8	590,497	8
INDUSTRIAL AND FARM EQUIPMENT	73,644	9	2,671	14	72,563	10	22,854	12	41,855	13	564,680	9
SCIENTIFIC AND PHOTOGRAPHIC EQUIP.	69,425	10	3,551	12	84,687	9	26,367	10	55,811	10	542,390	10
METALS	68,845	11	4,037	11	69,014	12	18,834	13	26,724	15	364,018	13
PHARMACEUTICALS	60,843	12	8,281	5	60,174	13	31,608	9	156,742	2	419,990	11
SOAPS, COSMETICS	45,907	13	2,057	15	34,908	15	11,846	15	32,758	14	190,105	20
PUBLISHING, PRINTING	44,370	14	3,173	13	60,756	11	26,141	11	87,992	9	323,087	14
BEVERAGES	43,747	15	4,136	10	47,290	14	17,987	14	54,281	11	381,525	12
BUILDING MATERIALS	27,315	16	832	20	26,107	16	4,094	21	9,167	19	212,537	16
METAL PRODUCTS	24,389	17	1,389	16	22,236	17	8,114	16	21,348	16	222,816	15
TEXTILES	21,984	18	189	23	17,534	19	5,482	19	4,030	22	206,291	17
RUBBER AND PLASTICS PRODUCTS	21,616	19	600	21	15,921	20	5,492	18	8,366	20	198,478	19
APPAREL	15,767	20	885	19	11,352	22	3,898	22	7,470	21	205,196	18
TOBACCO	13,971	21	1,290	17	14,925	21	4,461	20	9,751	18	79,067	22
FURNITURE	12,242	22	315	22	8,090	23	1,188	24	3,606	23	138,976	21
MINING, CRUDE-OIL PRODUCTION	11,594	23	1,044	18	20,531	18	5,667	17	18,929	17	38,538	24
TRANSPORTATION EQUIPMENT	7,046	24	64	25	4,973	24	2,066	23	2,685	24	62,278	23
TOYS, SPORTING GOODS	2,647	25	161	24	2,077	25	1,016	25	2,007	25	19,383	25
JEWELRY, SILVERWARE	696	26	54	26	453	26	222	26	1,008	26	8,264	26
TOTAL	2,164,347	-	105,573		2,288,122		719,045		1,379,571		12,539,817	

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